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The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCTION AND PIPE LINE DIVISIONS

THE WEEK'S NEWS INTERPRETED

JUNE 27, 1932
lume 66 Number 2

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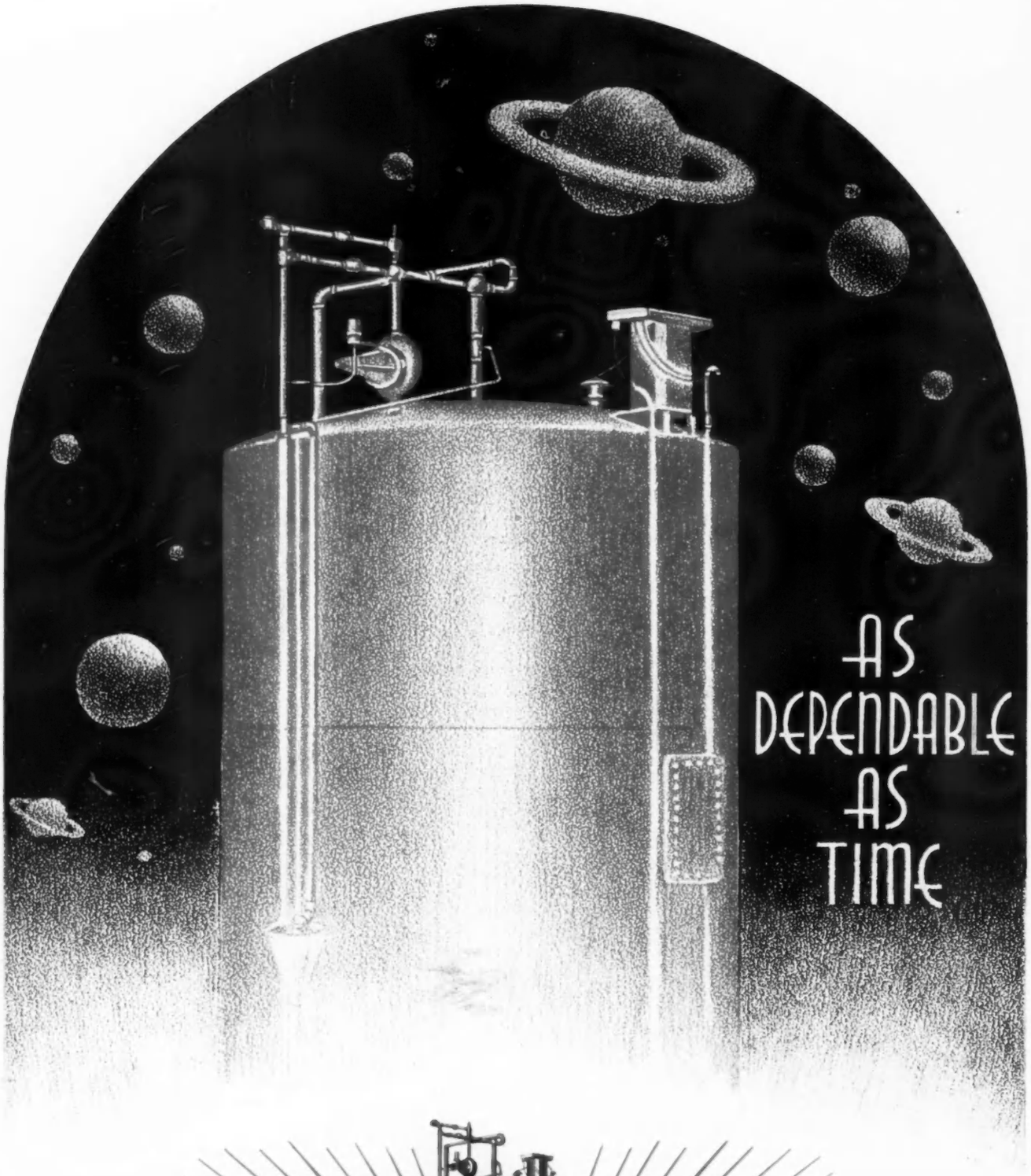

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GASO PUMP DESIGN SAVES POWER—LESSENS WEAR

BEARINGS

— in GASO Pumps conform to todays best engineering practice. For example, in Fig. 1508 GASO Power Pump the pinion and crank shafts are journaled in Timken Tapered Roller Bearings. Crosshead ends of connecting rods have bronze bushing. Crank ends have removable steel shell, babbitt lined . . . In all GASO Pumps skillful design is combined with precision workmanship and the most suitable materials to insure efficient operation and long life . . . Gaso Pump & Burner Mfg. Company, Tulsa, Oklahoma.

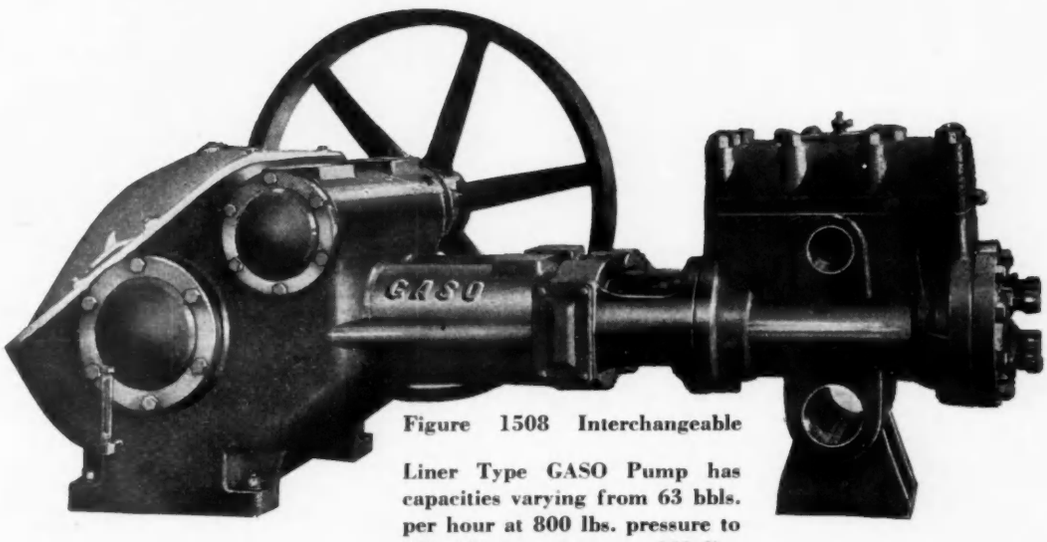

Figure 1508 Interchangeable Liner Type GASO Pump has capacities varying from 63 bbls. per hour at 800 lbs. pressure to 250 bbls. per hour at 250 lbs. pressure. Arranged for belt or V-rope drive; direct connected to engine through flexible coupling; or for motor drive through silent chain or reduction gears.

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J&L STEEL

JUN 28 1932

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S. W. ROBINSON
Editor

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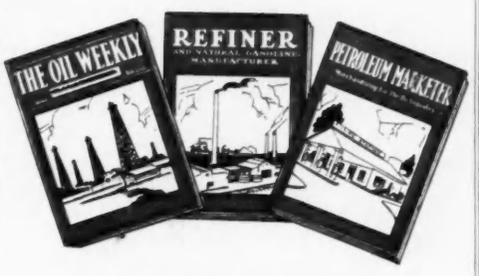

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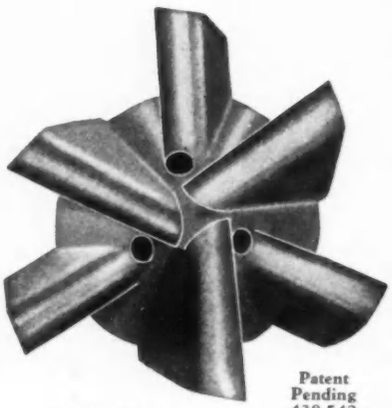
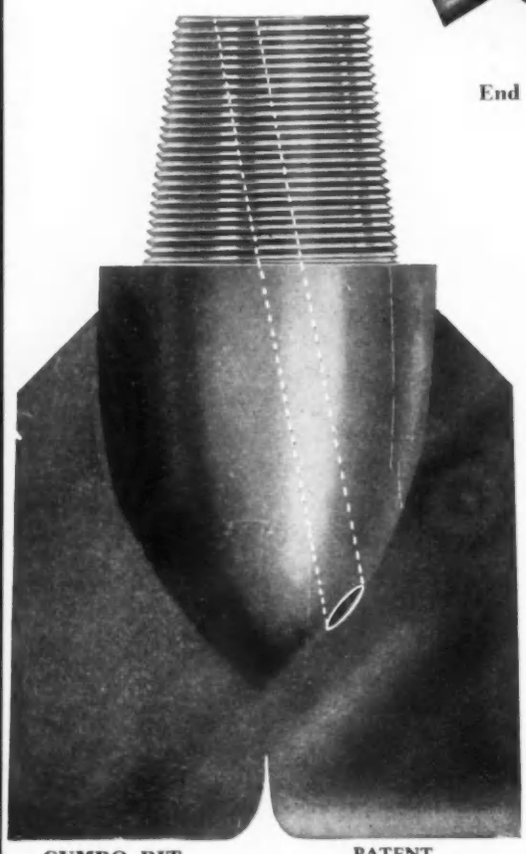


End View

Patent Pending 438,542



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THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

Whatever may result from the federal tax on gasoline, it made business good for the refiners for a few days. Week before the tax became effective shipments were so great that refiners' stocks were drawn upon in spite of healthy increases in still runs. This transfer of stocks from refinery to dealers' tanks is expected to cause a slack period at least over the first part of July. However it is to be anticipated that the three-day Independence Day holiday will result in a large consumption of gasoline by motor cars, despite the added tax, which, incidentally, will pass for the present into the profits of the sales department. Page 20.

When East Texas Pumps

"No need to take off your shoes until you get to the river," would probably apply in the minds of some as regards the flood of water expected when East Texas passes flowing oil. But promise that eventually it will be necessary to pump a lot of salt water to get the oil—a promise made real by the number of wells already requiring pumps, is the basis of much speculation on what conditions will be when the whole field pumps. The field is deeper than ordinarily would be handled with jacks, but there are those who hold that central powers will be the rule. On the other hand, another group of operators contend that the large volume of water will make individual units a necessity. At all events, when the pumping stage arrives there will be many wells to operate. Page 23.

"Haste makes waste" is an axiom that has been emphasized in recent years, as regards drilling of oil wells, by the record of crooked holes. This is so much so that an exception to prove the rule is worthy of notice and the men who can do it deserve the industry's acclaim. Such a record is being made in East Texas, and as is the rule with real champions, the men who are doing it can show that it is nothing out of the

A foreign oil field view probably could be credited to the above, but it is actually a view of the first oil producer completed in the Texas Panhandle, with John Capprel, member of crew (left) and C. M. Pyron, then a superintendent for Gulf Production Company. The well made 175 barrels oil at 3045-48 feet in April, 1921.

ordinary. All they do to save drilling time is to not waste any. Crews of the record making rig are organized to do that part of the work which has not been anticipated promptly when it is time to do it, so that power is on the bit and the bit on bottom during that part of the time when usual crews are in the driller's way. Result is completed wells in record time and remarkably straight—they even keep busy while the cement sets. Page 26.

To Stop a Leak

Custom dictates that gasoline be stored in tight tanks while crude from which the gasoline is made is more carelessly handled. This custom was established before someone with an inquisitive bent determined that gasoline fractions evaporate out of the crude more readily than from the finished gasoline. Disregard of this fact is responsible for one of the greatest losses the industry sustains. Possibly it is impractical to even attempt to eliminate evaporation losses from field tanks and crude storage, but there are a number of ways to reduce these losses. Page 34.

"Why is a geologist?" has become almost a perennial question in the minds of a few gentry of the oil industry. About the time the geologist had established himself with that element in production who adhered to the theory that luck and awkwardness were the best guides to finding production, the finding had been so well accomplished that for the time it looks that further search is superfluous. Fact is, however, that currently the geologist holds his important position in the economic scheme of oil production, and in the future there will be need of him, not in so great number, perhaps, but better trained. Page 30.

The Oil Man's Calendar

JUNE

24 *Pennsylvania Grade Crude Oil Association.*
27-30 *American Society of Mechanical Engineers, Bigwin, Canada.*

AUGUST

22-26 *American Chemical Society, Denver, Colorado.*
23-26 *Pacific Coast Gas Association, Spokane, Washington.*

SEPTEMBER

10-17 *Society of Automotive Engineers, Cleveland, Ohio.*
14-16 *National Petroleum Association, Atlantic City, New Jersey.*

OCTOBER

1 *American Institute of Mining and Metalturgical Engineers, Petrolcum Division, Dallas, Texas.*
3- 7 *National Safety Council, Washington, D. C.*
4- 6 *Society of Automotive Engineers, Transportation meeting, Toronto, Canada.*
10-14 *American Gas Association, Atlantic City, N. J.*
11-12 *Kentucky Petroleum Marketers Association, Louisville, Kentucky.*

NOVEMBER

10 *California Natural Gasoline Association, Los Angeles, California.*
15-17 *American Petrolcum Institute, Houston, Texas.*

DECEMBER

Rocky Mountain Oil and Gas Association, Great Falls, Montana.
5- 9 *American Society of Mechanical Engineers, New York.*

Small cars, better gasoline, less crude. That briefly seems to describe the situation brought about by the present trend in automobiles. Efficiency in small cars requires high compression which requires anti-knock gasoline which requires cracking. To meet this need, refiners are reforming their plants and in doing so put in equipment which cuts deeper into the crude.
Page 15.

Political Angle

"Subject to the action of the Democratic Primary in July" is what many observers will associate with the reversal of the Texas Railroad Commission's idea of how best to conserve oil in East Texas "without regard to economic waste." Two members of the commission are up for election and East Texas is much political minded; the candidates are due sympathy. Apparently those speaking for the new arrangement are closest to the people. Under the new arrangement it is to be expected that production will mount at a rapid rate as completions are speeded, and even should purchasers elect to restrict their purchases, excess of their takings will go at lower prices into channels which heretofore have disturbed the market. Probably the increase will not have become too serious by the time of the primary above referred to, in which event "threats of riot and insurrection" may bring things back to their beginning again.

And Military

Governor Murray adds still another angle to executive privileges when he assesses Oklahoma City operators on a barrel basis to pay the expense of the guardsmen who will patrol the field to enforce his executive order. The order says plainly that the assessment is not a tax. The same authority could as well say that salt water is oil and collect on it according to the meters which he has ordered installed.
Page 12.

East Texas Proration *Put on Straight* Per Well Basis

AUSTIN, TEXAS, June 24.

PRORATION regulations for the East Texas field were changed from a field maximum to a per-well maximum through an order written* June 23 by the Texas Railroad Commission. For a period of 60 days, beginning July 1, each well will be allowed to produce 51 barrels daily and the maximum output for the field will vary in accordance with the number of wells producing. There are now 6350 wells in the area. R. D. Parker, chief oil and gas supervisor, estimated that sufficient wells will be completed by September 1 to give the field daily output of 400,000 barrels.

Along with the new order came information that the commission will hold hearings on other Texas fields, especially Van and Yates, and indications are that these and perhaps other fields will be brought under stricter output to offset the increase allowed East Texas. Van now has maximum allowable of 50,000 barrels, while Yates is allowed 65,000 barrels.

Strenuous protests followed issuance of the new order. Charles F. Roeser, chairman of the Texas Oil & Gas Conservation Association, protested on the grounds that the new order is not in keeping with the sense of the Texas conservation statute and said that the majority of producers are not in favor of a regulation which does not provide for a maximum daily output for the pool.

E. A. Landreth of Forth Worth protested on similar grounds. W. S. Farish, president of Humble Oil & Refining Company, Houston, entered a protest by telegram, which set out that only rigid enforcement of conservation measures could avoid "50-cent oil."

Wirt Franklin of Oklahoma City sent a warning message to Lon A. Smith, member of the commission, in which he predicted that any material increase in production would result in price reductions. Franklin said that he had information to the effect that a price increase of 25 cents a barrel would result if daily output of the United States could be brought under 2,000,000 barrels daily by August 1. He further pointed out that an increase in production would offset the advantage gained by enactment of the tariff measure in Congress.

Smith, however, said that the commission was not concerned with crude oil prices but with waste in oil and gas production.

The new order followed two days of testimony. Many producers gave testimony to the effect that a per-well allowable of less than 50 barrels daily would be harmful. The proposition of a per-well allowable, with no maximum for the field, predominated throughout the hearing.

Captain J. F. Lucey of Dallas, representing the East Texas Chamber of Commerce, said that he believed it feasible to try a flat per-well allowable for 60 days to determine its result. He said that the well allowable under such a plan should not be less than 50 barrels. Captain Lucey thought that East Texas should have some increase in total output due to higher consumption of gasoline in the summer and the tariff on oil imports.

Well output of 60 barrels was recommended by J. W. Olvey of Eldorado, Arkansas, who contended that producers could not maintain properties on less than that.

Carl Estes, Tyler editor, cited higher per-well output in other fields in making his plea for an increase for East Texas.

S. A. Guiberson, Dallas manufacturer, called attention to high well output in other Texas fields in his testimony in behalf of an increase for East Texas. He said he thought it would be well for the commission to fix 200 barrels as the maximum for any well in Texas. Reductions by such restrictions could be allocated to East Texas.

Wells in Duval County and in the Yates pool were cited by Earl Calloway as instances of production far in excess of that allowed East Texas wells. He said he would be willing to follow any course needed in East Texas, provided other areas also come under strict proration.

At this point R. D. Parker, chief supervisor of the commission, asked why these operators had not introduced testimony concerning other fields at previous hearings.

E. O. Buck, petroleum engineer for the commission, said that oil is being withdrawn too rapidly under present rate of production, 51 barrels per well daily, and that a further reduction would be desirable. He said the present allowable is being exceeded by 10 to 15 per cent. His opinion concerning water is that it underlies about half the field.

This estimate of conditions was substantiated by A. W. Walker, engineer for Stanolind Oil & Gas Company.

After giving technical testimony concerning gas measurements and the gas-oil ratio, E. V. Foran testified that the present allowable of 325,000 barrels daily is reasonable and that an increase would result in more waste than is now prevalent.

George L. Nye, engineer of Tidal Oil Company, said that well pressures on properties of his company had been restored since the shut-down of last year under martial law.

The commission must set up new proration regulations for the field by July 1, when present regulations expire.

*Actual signing of the official order is reported to have been deferred by the Commission until Monday, June 27. In the meantime influential operators and organizations have launched a campaign to flood the members of the Commission with personal messages pleading for a continuation of the old policy of lowering the well allowable at regular intervals in order that the total output of the field may remain near the 325,000-barrel level and on a par with market demand.

Expect Increased Allowable to Disorganize Market

TYLER, TEXAS, June 24.

CONTINUATION of the 51-barrel daily allowable per well in the East Texas field through July and August as ordered by the Texas Railroad Commission on June 23 after taking testimony for two days on the subject will be ignored by many of the leading crude purchasing companies in the field beginning in July. Crude buyers have in the past elected to limit their own production and purchases per well when the authorized allowable exceeded their requirements, and it is an assured fact that such policies will be revised. The drawback to such a condition is that the rank and file of producers flow their maximum allowable, and offer that portion of their production turned back by regular purchasers to local refiners at distress prices, which usually are about one half the posted price.

East Texas operators in close contact

with crude market conditions in the field forecast that all buyers paying the 98-cent posted crude price will refuse to absorb any new connections, which have been difficult to obtain although the allowable has been cut at 15-day intervals for seven consecutive periods. It is also predicted that a fresh spurt in drilling will be launched by many illy advised operators who expect the commission's new order to be respected and the price structure remain unchanged.

Assuming that the present rate of completions, which now total 6350 oil wells, continue at rate of more than 20 new wells daily, the field will have considerably more than 7700 wells by the end of August. Should the purchasers support the 51-barrel daily allowable, then the field would be producing close to 400,000 barrels daily at the close of August. Operators are having great difficulty in gaining new well connections, and a market for old wells while the total output of the field is supposed to be restricted to approximately 325,000 barrels daily. In the face of these facts the members of the commission have elected to abide by the wishes of a minority group of the operators and discontinue usual 15-day cuts in the allowable in offsetting new completions for 60 days. Two members of the commission are up for re-election in the July primaries.

Both Yates and Van fields have been enjoying a higher daily output per well for months than any other major crude source in Texas. The former is allowed 65,000 barrels daily from 405 flowing and pumping wells, thus affording an average of about 164 barrels daily per well. The Van field's proration quota is 50,000 barrels daily, with about 315 wells on production, or an average of about 158 barrels daily per well. These two fields have been operated at all times under rigid proration rules, and at no time has it been the desire of operators in the two areas to break loose from such restrictions.

Oklahoma City *Proration Again Placed* In Hands of Militia

Oklahoma City.—Governor William H. Murray, in an executive order issued Tuesday, June 21, carried out a threat made several times within the past few months by relieving the umpire and his staff and taking over control of proration in the Oklahoma City pool. All orders and regulatory power of the corporation commission were voided at the same time. The order restores martial law which was recently removed by Lieutenant Governor Robert Burns during the governor's absence from the state. Although it creates a proration board of five members with Lieutenant Colonel Cicero I. Murray as proration umpire, the order in fact places Governor Murray in the role of "Czar" of the Oklahoma City pool since all orders or regulations promulgated by the proration board must have his approval.

30 Men to Patrol Field

Provision is made for 30 national guardsmen who will patrol the field in three eight hour shifts, four men on duty from eight o'clock a.m. until four o'clock p.m. each day; 10 militia on duty from four o'clock p.m. to 12 'clock midnight; and 16 on duty from midnight until eight o'clock a.m. The order further provides for an assessment of one-fourth of one per cent per barrel of all oil produced for the payment of expenses of proration. This provision is not clear but is thought to mean one-fourth of one per cent per barrel. As a penalty for non-payment the umpire is authorized to close down the well or wells. Guardsmen are to receive $3.00 per day with a special allowance where automobiles are necessary. The pool probably will not exceed 100,000 barrels per day during the next few months, which would mean that the proration fund would accrue at the rate of about $250 per day.

From later reports it is understood that the proration board will include Cicero I. Murray, Ray M. Collins, state proration umpire and former umpire of the Oklahoma City pool; E. F. Guidinger, Phillips Petroleum Company; Wirt Franklin, Wirt Franklin Petroleum Corporation, and Burdette Blue, Indian Territory Illuminating Oil Company.

Committee Didn't Expect It

The order came while about 30 representatives of the statewide proration committee were considering allowable production for the state during July. Although no statements were given out by members of this committee it was evident that they were astounded at the governor's action and that any further consideration of Oklahoma City allowables would be wasted effort since this will be left to the governor and his proration board. Demand for Oklahoma City crude for July probably will be five per cent or more below that for the preceding month.

Texas Ouster Suit *Trial Expected to* Start in October

Austin, Texas.—Efforts of attorneys of two defendants in the litigation through which the state of Texas is seeking to oust 15 oil companies to have a special attorney barred from the trial were overruled by Judge J. D. Moore here June 22. Another session will be held the second week in July and the final petition upon which the state will stand for trial will be passed upon then. The date for the trial proper will be set then. Attorney General James V. Allred sought to have the trial date fixed for early October but the court declined to fix a definite date.

The attorney whose rights in the case were questioned is Bernard Martin of Wichita Falls. Representatives of Cities Service Oil Company and Texas Pacific Coal & Oil Company sought to enjoin his appearance on the grounds that he represents Quaker State Oil Refining Company, Oil City, Pennsylvania, a competitor of the defendants. The petition asked that his rights be suspended in the case and that he be enjoined from examining any confidential information gathered by the attorney general.

The court sustained a demurrer of the state on the grounds that the pleadings were not legally sufficient and did not come within the statutes providing for removal of an attorney in a case.

If the trial gets under way in October it will have required almost one year to bring the question proper before the court. The original petition was filed in November, 1931. The attorney general seeks to oust 15 oil companies and two associations from Texas on the grounds that anti-trust statutes of the state have been violated. The National Code of Practices for the Marketing of Refined Petroleum Products is one of the questions upon which the case will hang.

These Times . . . What Employers Expect

HERBERT R. GALLAGHER
President Consolidated Oil Corporation

"IF there is any bright lining in the cloud of depression it is the way the rank and file of industry has responded to the necessities of the situation. At least that is our experience, and we are grateful for it and it wont be forgotten when good times come again. Necessary, in fact, inevitable wage cuts have been taken cheerfully. Instead of slackening, there has been an intensification of effort.

"Of course, any man with a grain of sense knows that he is lucky if he has a job—any kind of a job with any kind of a salary. But I don't believe that our men and women are motivated by that consideration alone. I think they figure it out about this way: 'Nobody is making any money. The company is trying to keep as many as possible of us at work at the best wages it can pay. It's up to me to make all the money I can and save all the money I can for the outfit that treated me well when times were good and will probably do so again when we get out of this slump.'

"The truth is that in the period of inflation and sudden riches we all got a false idea of values and of what was coming to us. We also got 'soft'—we took things easy, we pampered ourselves. That is all over. Instead of complaining that our nose is always on the grindstone, we ought to realize that we are lucky to have a grindstone.

"If this sounds like a harsh and unsympathetic philosophy go and read 'Sartor Resartus.' Carlyle was not a callous corporation executive. He was a great humanitarian. What he says on this subject is substantially this: We set up for ourselves a certain standard of reward. Anything below this is bad luck or ill fortune. Anything above the level we call good fortune or only our just deserts. Make your claim for reward zero, says Carlyle, and everything will be good luck. 'Imagine that you deserve to be hanged, and it will be a luxury to be shot.'

"No one would want to be taken literally in making such a statement. I would not, but if we think over the philosophy of Carlyle's ideas we shall have a saner view of what is coming to us.

"Perhaps I am getting away from what THE OIL WEEKLY wanted me to talk about. You ask me what the company expects of its key men and other employes. Just what every employer expects: loyalty, hard work, judgment, protection of the company's interests in every possible way. If he is a production man we expect him to exhaust every expedient to drill wells and lift oil at less cost that ever before. If he is a refining man we expect him to turn out better products for less money. If he is a salesman we expect him to sell more at a lower unit cost. And our people are doing all of these things.

"What I said before getting down to a direct answer to your question has, I think, a more important bearing on the subject if we are to get at the base of our ideas. We have a saying in our organization that has become almost a company slogan—'Santa Claus is dead.' It means a lot. It means that we must work for everything we get and not expect any gifts. That is the viewpoint that we have sought to get into the minds of our employes—and they have 'got' it, and are acting on it. The result will be that we shall come out of this slump stronger than ever, for nothing cements an army or an organization like troubles or sacrifices in which all share alike."

Assure Jobs *of Those Who Will Keep Them, Conoco* Official Advises

ECONOMIC authorities agree that any appreciable upturn in general conditions must be preceded by a greater demand for goods. With millions unemployed and their buying power reduced to zero it would seem that the only way to increase the demand for goods would be through a restoration of confidence on the part of those still gainfully employed. Assuming that this can be accomplished only by going directly to the employes,

W. W. BRUCE

W. W. Bruce, executive vice-president of Continental Oil Company, has outlined a course which can lead to great accomplishments if followed out in all of the industries. In a recent issue of "Conoco," the company's magazine, Mr. Bruce said:

"Economic doctors have advanced many theories designed to bring about an upturn in business activity and, generally, to establish more stable conditions in business and industry.

"In a recent issue of Babson's Business Sales Bulletin, this statement was made: 'The first essential to the return of prosperity is a demand on the part of the people for goods, and this demand must be created by salesmen and advertising.'

"It seems obvious that a demand for goods must precede an upturn in business activity, and therefore, a return to more normally prosperous times. However, it does not seem so obvious that this demand 'must be created by salesmen and advertising.' In fact, it might be argued that the statement is fallacious in that the reasons for the present lack of demand are so deep seated that the cure cannot lie in the efforts of salesmen or in volume or character of advertising.

"Salesmen's efforts and advertising influence on prospective buyers are productive only to the extent that the prospect is a potential buyer. It then rests with the salesmen and the advertising to create in that prospective buyer's mind a desire for the goods. The buyer has all of the qualifications needed to turn him from a prospect into a reality. It is presupposed in this instance that the salesmen and the advetrising are concentrating on a subject who has full confidence in the stability of his position and no fear of its loss, and who merely has to be converted to the idea that his immediate needs require the purchase of the article or articles offered for sale.

"Today, however, the prospective buyer is obsessed with fear and no salesman will take confidence in the future to turn that potential buyer into a real buyer and make him a willing prospect for a salesman and a real target for advertising.

"That confidence which is needed can be restored, but only in one way—only when and if those people who still have jobs and a regular income can be made to believe that those jobs and incomes are safe. There is still plenty of buying power left in the country, in spite of the fact that millions are unemployed. That buying power, however, is beaten down and stifled by the fear of unemployment—fear brought about by the sight of millions of their fellow workers dependent upon charity. This spectre of disaster must be removed from the minds of those who still have regular jobs and regular incomes. Incomes that they are afraid to dissipate except for the bare necessities of life, because of the fear that tomorrow they may join the ranks of the unemployed.

"The way to start the building of that confidence, about which so much is said and so little done to produce it, is for every going concern in the country today, or as many as can do so, to definitely notify every employe in the organization that he need have no further fear of either the company's dissolution or of his being sure of retaining his job so long as he performs his duties toward his job.

"There are some companies in the country today, no doubt many of them, that have soundly survived the past three years and now feel fairly certain that they are going to weather the storm, and therefore, can say to their employes that their jobs are safe and they can rely on that fact. Were it possible for such a notice to be given to the millions of employes of companies who could make such a statement, there would be an immediate release of buying power, of which salesmen and advertising could take immediate advantage with astounding results.

"The unleashing of this buying power would immediately create a demand for labor that would revive the employment situation and the current trend of consumption. Employment and values would turn upward and we should have the beginning of a return to a normal prosperity which, however, will not become a possibility until fear is removed from the minds of those who are still employed and a confidence restored to them of the stability of their future.

"Insofar as employes of Continental Oil Company are concerned, they need have no fear that their jobs are in jeopardy, so long as each employe performs his duty in a manner that measures up to the efficiency standard of this organization."

Standard Extends Time for California to Get in Line

Los Angeles.—With reference to the proposal for an advance in the price of crude oil, K. R. Kingsbury, president of Standard Oil Company of California, has sent the following telegram to William M. Keck, chairman of the executive committee for the equitable curtailment of the oil industry of California.

"We are advised that while the state's production has been curtailed to a point under the total allowable, a few fields are still producing in excess of the allowable fixed by your committee on the basis of a total of 476,700 barrels for the state. We are also informed that at least in two of these fields this condition will be immediately corrected leaving only Long Beach and Huntington Beach producing more than their equitable share as determined by your committee. You will recall that in our

offer one of the conditions of the higher price for crude oil was that no field should produce in excess of the allowable your committee had set for such field. The great progress your committee has made and the whole hearted cooperation accorded it by the great majority of the producers in the short time since our offer was made encourages us to believe that you will be successful in accomplishing the objective of your committee, and in order to afford an opportunity for doing so you may consider our offer as remaining in effect until seven o'clock gauge Thursday of this week, June 23*. Our original proposal indicated that if the production exceeded the allowable in any one week the advanced prices would be withdrawn. We propose to extend this to a 10-day period."

*An extension has been granted. See page 19

Anti-Knock Gasoline *Causes Refiners to* Require Less Crude

GEORGE REID
Staff Representative

THE principle contributing factor causing the wide spread construction activity in the refining branch of the petroleum industry can be traced back to the economic factors affecting the automotive industry.

In their efforts to secure sales, members of the automotive industry are concentrating upon the production of light cars, in as much as the small car field represents about 85 per cent of that industry's sales. To secure satisfactory performance the light car must be powered with motors of high compression ratio. This, interpreted in terms that affect the petroleum industry means that gasoline of higher octane ratings (higher anti-knock characteristics) must be produced—and that means more cracking or naphtha reforming units, which in turn brings about the installation of additional vapor recovery and gasoline stabilization plants.

Lacking the higher compression ratios the performance of present day small cars might have been secured through greater displacement, and this means that larger and heavier engines would be required, which in turn means heavier parts, more weight, in the rest of the automobile assembly. Such a method of approach is all right in so far as the high priced automobile is concerned. However, with 85 per cent of the market being in the low priced field (which, incidentally is to be entered soon by three more motor car manufacturers, according to reports) the automotive industry is vitally concerned with high compression ratios, and low weight cars to sell in the $500 to $1000 range.

It is not possible with low weight small cars to secure the greater horsepower, rapid acceleration, high speed, and other desirable features of performance and economy, without high compression ratios. In securing performance with the modern small car, better than that of larger and more expensive cars of five years ago, the automotive industry has created a demand for premium motor fuels. Ninety per cent of the cars for 1932 distribution have compression ratios of 5 to 1 and over. Five years ago this percentage was 21. Automotive engineers are pretty well agreed that compression ratios can reach above 7 to 1 with modern present day engines before serious difficulties are encountered. Certainly this trend indicates a further raising of octane rating of motor fuels (affecting all three grades of fuels now offered) and therefore the intensive application of the cracking unit in the future.

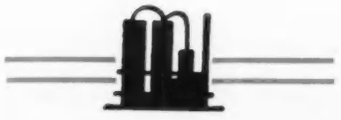
While the conditions in one industry, as outlined above, force the adaptation of new methods in another industry (such as the naphtha reforming process) some times the "unusual" occurs, as it has in this instance, and the production of increased quantities of finished product does not indicate an early revival of continued increases in demand for raw material—in this instance, crude oil. Through the wider utilization of the cracking and reforming processes now available, the refining industry can materially increase its annual gallonage yield of motor fuels without processing increasing amounts of crude, and this condition contributes much to the lower crude demand as forecast by the industry's economists.

The problem of providing motor fuels satisfactory to the modern motor car, and those of the future has brought about much construction activity in practically every refining district in this country and Canada (where import duties have also contributed to construction of new refineries). Likewise, many refineries operating old equipment have been modernizing their plants through the erection of new facilities to be enabled to produce the closely fractionated motor fuels of higher volatility now required by the marketing branch of the industry. Most of the new plants going into service recently are equipped with cracking facilities, or contemplate their early addition.

During the first half of 1932 over 45 major construction programs have been completed, are under way or proposed, in this country. In Canada, during the same period, 10 new refineries have been erected or are under construction. In this country, only a few new refineries have been added to the list, appearing in Kansas, Michigan, Alabama, Texas, Colorado, and California. By far the majority of the new work reported has consisted of the erection of additional cracking facilities for heavy distillates and residues, reforming units for straight run naphthas, and gasoline and vapor recovery and stabilization systems. The work has been reported most actively in Texas, Oklahoma, Kansas, Pennsylvania, New York and California.

The available reports do not include all of the activity of construction and expansion in the industry for the reason that all companies do not release such information. A number of companies are known to have installed cracking equipment of their own design, concerning which no reports have been permitted. In addition to the erection of cracking facilities, new refineries, gasoline recovery and stabilization systems, a number of refineries have enlarged their steam generating plants, or modernized them; some construction work has been under way in lubricating oil manufacturing departments; cooling water circulation systems have been expanded, waste water recovery, caustic soda and acid recovery plants have been installed, and a number of refineries have improved their fractionation facilities through installation of fractionating columns of modern design.

It appears that, as customary, the industry is getting its manufacturing facilities in good order for operation during the winter months, during which time, as usual, it is expected that expansion and construction activities will be reduced to that necessary for efficient operation, consisting mostly of general repairs and maintenance.



MEN IN THE INDUSTRY'S NEWS

R. D. MAHAFFEY, vice president and treasurer of the American Well Works, died June 3 at his home in Aurora, Illinois, after an illness of several months. Mr. Mahaffey, who is survived by a wife and daughter, had been with the American Well Works for 43 years, having started with the organization as an office boy.

CHARLES F. LYTLE, independent operator in Mexia in the early days of that field, and now resident of Sioux City, Iowa, has been spending the past few weeks traveling in the Mid-Continent and Gulf Coast. He will be remembered by many in Central Texas as the driller of the 6100-foot Trinity sand test on the western edge of the Mexia field.

DR. NOEL H. STEARNS, chief geologist for the Silurian Oil Company and W. C. McBride, Inc., has been made vice president of the Southwestern Quicksilver Company, which owns the first mine to be put into operation in the new Arkansas Cinnabar District. Dr. Stearn is now examining mines in Idaho.

B. M. LAULHERE, formerly superintendent for Southern California Gas Company in the Los Angeles basin, has been appointed supervising engineer and will be in charge of engineering, construction, research, transportation and testing in all districts. One of his most recent assignments was to supervise construction of the 26-inch Kettleman Hills-Long Beach gas line.

N. B. SWEENEY, manager of Sun Oil Company's district headquarters at Dallas, Texas, departed last week on a vacation trip to Chicago accompanied by members of his family.

HARRY EVERSBURG, who formerly scouted for the Shell Petroleum Corporation in Louisiana, has been assigned to the Beach field, Montgomery County, and will maintain headquarters at Conroe, Texas.

SCOTT TURNER, president, and A. B. Parsons, secretary, of the American Institute of Mining and Metallurgical Engineers, will attend the regional meeting of the Southern California Section, to be held in Los Angeles July 28-29.

R. B. KELLY, production engineer for Pure Oil Company in the Texas Division with headquarters at Fort Worth, has been appointed assistant to B. S. SoRelle, division manager, succeeding P. R. Smith, who has been transferred to San Angelo to take charge of the production and lease activities of the company in West Texas.

J. G. GARLOW, assistant field superintendent for Burma Oil Company in the Yenangyaung field, is studying problems in the Kettleman Hills field which are similar to those found in Burma. Some of the difficulties confronting operators in Burma closely parallel those encountered at Kettleman Hills.

KENNETH TARRELL, petroleum engineer for Shell Oil Company, left California recently for London and The Hague, after spending two or three years in the United States.

A. TROFF, assistant superintendent of Azneft Oil Trust, U. S. S. R., at Baku, is visiting in California. He is particularly interested in drilling under pressure and has been spending some time at Kettleman Hills.

K. TARREL, of Asiatic Petroleum Company of London, England, has been visiting in California while studying American production methods. He will leave this week for New York and England, and will get a permanent assignment later.

DR. GEORGE C. SWEARENGEN of Jackson, formerly a professor in Millsaps College in Jackson, has been appointed Mississippi state oil and gas supervisor by Governor M. S. Conner. The appointment was made pursuant to the new conservation act passed by the last legislature. Dr. Swearengen is said to be thoroughly conversant with the geology of Mississippi and has been interested in the development of the Jackson gas field. He was chosen from a field of several applicants for the post. His selection met with approval by operators of the state.

Sun Oil Company employes with more than ten years service, gathered at the recent annual company picnic at Dallas, Texas

Left to Right—Top Row: L. C. Herndon, R. E. Schutz, J. E. Tyson, R. M. Shiflett, F. C. Metzger, R. L. Tyson, Arch Clark, J. H. Pressley, Dan McLeod, Jr., L. H. Ridout, J. T. Hamilton, Dr. F. H. Lahee, W. R. Swan, Jno. G. Pew, W. P. Campion.

Middle Row: H. J. Muntzell, H. H. Boyer, C. A. Toler, G. H. Bollman, M. L. Brown, R. L. Inglish, W. F. Pope, E. B. Hudson, J. H. Langston, W. C. Thompson, E. McCune, R. E. McHenry, C. P. Stewart, J. L. Stewart, R. E. Prescott.

Bottom Row: A. P. Davis, C. D. Freeman, T. L. Foster, J. Edgar Pew, M. B. Sweeney, R. W. Pack, Mrs. Eula Denton, Mrs. Imo Patton, Miss Gertrude Lane, Miss Eunice Beyette, I. C. Jared, Roy Stanley.

Two 500-Bbl., A. P. I. Maloneys in East Texas

During Summer Months Maloney *Vapor-Pressure* Tanks Save You Especially Serious Oil Losses

Our *Vapor-Pressure* construction includes, among other features: not less than 12-gauge, rust-resisting Keystone Copper Steel; heavy 2-inch angle ties and reinforcements; efficient valves set at 16 ounces pressure and ½ ounce vacuum; and our special aluminum paint made with a spar vehicle containing water-proof and alkali-proof inhiburine.

MADE OF

KEYSTONE AMERICAN

This construction positively restricts breathing losses—even under the pressure variations within the tanks caused by the alternate mid-day heat and midnight coolness of summer.

During the hot weather months your loss in gravity and volume of oil wasted by evaporation from inefficient storage is especially severe. Therefore the use of Maloney *Vapor-Pressure* Tanks enables you to make an especially large saving—and an equally large increase in your income.

"Alone in Quality"

MALONEY TANK MFG. COMPANY, - 38 N. Peoria Ave., Tulsa, Oklahoma.

Distributers at All Principal Petroleum Points

Packed in Steel-Bound Crates for Export

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

2 INSTRUMENTS *for the* SAME PURPOSE..

but designed for different conditions

The Martin-Decker Pump Dynamometer for Weighing Wells Pumped With the Walking Beam

Both were made to cut pumping costs.

The Martin-Decker Pump Dynamometer was designed for weighing beam wells.

The Martin-Decker Pull Rod Dynamometer was designed to weigh wells operating from central powers.

Whether it be a beam pumped well or a jack line well, the information you want is the same.

How can power bills be cut?

What causes the rod breaks?

What is the most economical speed to pump that individual well?

What is the proper length of stroke?

What would be the effect of changing to smaller or larger tubing or rods?

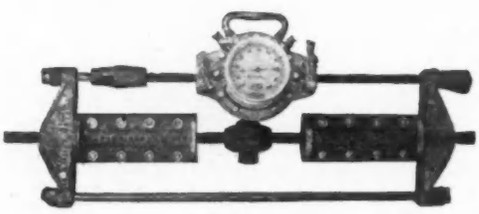
What is the proper type and amount of Counterbalance?

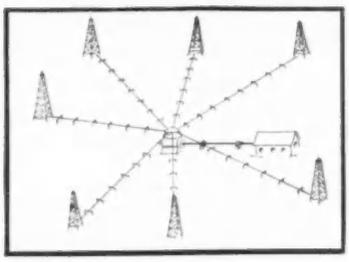
The proper answer to these and many other questions means savings in time, trouble and money.

The answer to these questions will be found by using the Martin-Decker Pump Dynamometer and the Martin-Decker Pull Rod Dynamometer. Both have been proven practical by years of actual field use in the hands of dozens of the leading producing companies, both in this country and abroad.

You may have complete information for the asking.

The Martin-Decker Pull Rod Dynamometer for Weighing Wells Pumped from Central Powers





THE WEIGHT INDICATOR

MARTIN DECKER CORP.

LONG BEACH CALIFORNIA

Economize—Weigh Your Pumping Wells

MARKETS ~ STATISTICS

Gasoline Market Easier After Jobbers End Pre-Tax Buying Spree, Expect Quiet Period for Couple of Weeks. Crude Production Takes Big Drop While California Seeks Promised Price Increase.

H. J. STRUTH, *Staff Economist, Houston, Texas*

California Seems Assured Crude Price Increase

DAILY average crude production of the United States was down sharply last week, recording a decrease of 51,240 barrels a day. Daily average of the United States was 2,137,385 barrels, against 2,188,625 barrels in the preceding week. Texas, Oklahoma and California contributed principally to the decline, with California making a good showing in anticipation of the posting of higher crude prices.

That the price boost in California appears certain is shown by the strenuous effort of operators there to bring production down to the desired level that will automatically result in an advance. The dead line for meeting the conditions necessary to effect higher prices for California crude was set for June 23, but an extension of two days was granted, making it necessary for all fields to have attained the allowable rate of production by Saturday. Last week's production figures showed that several fields had actually reduced output below their allowables and only a few fields are now producing more than their quotas. In fact, it is expected that all fields in the state will have shown satisfactory evidence of curtailment by Saturday's records and that prices will be advanced immediately.

California reported a reduction in state output last week of about 8500 barrels, bringing the total down to 464,000 barrels, which is actually below the state allowable figure. Still, Friday's report showed several fields producing in excess of the allowable and every effort was being made to make a favorable showing at the end of the week. Field reports from various districts of California on Friday indicated that production would be down sufficiently on Saturday, to justify posting the higher price schedule. This will boost the California crude market to the extent of 25 cents a barrel, bringing the price of 26 gravity crude at Signal Hill up to 98 cents a barrel.

The situation in East Texas is due to show a radical change in the near future as a result of the decision of the Texas Railroad Commission to place all wells on an allowable of 51 barrels a day, with no specific limit for the field as a whole. This is expected to cause an immediate increase in production that will perhaps exceed 400,000 barrels a day within the net few weeks. The only effective method by which excessive production can be prevented now is for the major purchasing companies to buy oil on the basis of a lower allotment per well. While this may create some market disturbance through a certain amount of underselling, it will perhaps have the effect of holding production in line with market rexuirements. Last week's productiqon for East Texas was about 331,800 barrels, against 337,950 barrels in the preceding week. This was a decline of 6150 barrels a day. Well completions in East Texas last week numbered 173, of which 171 were oil producers, one gas well and one dry hole. The new order probably will cause an immediate further increase in drilling activity, unless sufficient pressure is brought to bear upon the situation by the major purchasing companies. Texas reported a total daily average production last week of 853,795 barrels, a decrease under the preceding week of 3675 barrels. Increases were reported by the Panhandle, West Texas, East Central Texas, Southwest Texas and the Gulf Coast.

Oklahoma City reported a decrease in production last week of 22,250 barrels, while Seminole was off 6900 barrels. This reduced the state total 29,250 barrels. The daily average for Oklahoma last week was 422,250 barrels, against 451,500 barrels in the preceding week. Kansas reported only a slight change in production, the daily average for the state amounting to 98,100 barrels, against 97,850 barrels in the preceding week.

Los Angeles, Calif., June 25.

The California umpire is tonight certifying to Standard Oil Company of California that every field in the state is down and below the allowable. Long Beach is 2400 barrels under and Santa Fe Springs is under 1500 barrels below the allowable. Production today is slightly below 450,000 barrels.

A 25-cent increase in crude is expected not later than Monday and many expect a gasoline price increase to be announced at the same time.

THE OIL WEEKLY

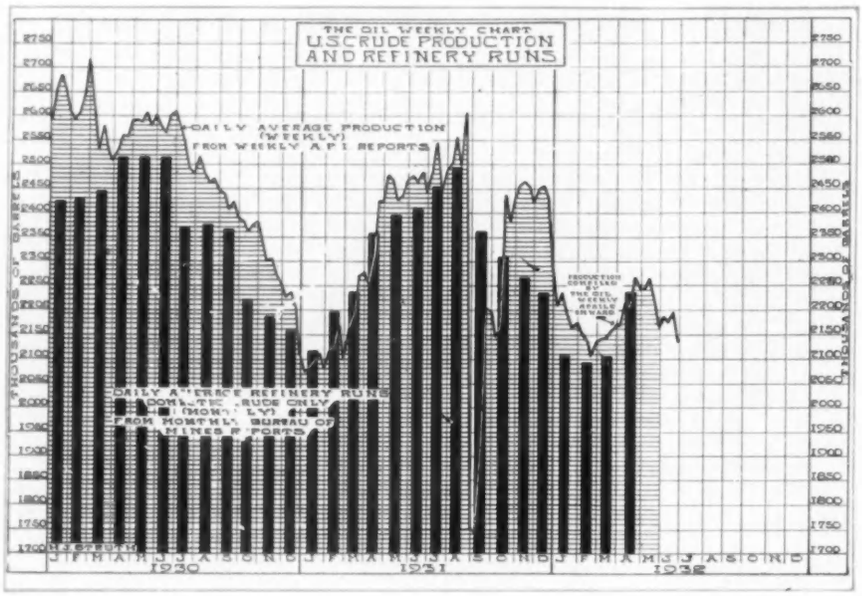
(Estimated Daily Average Production)
Week Ending June 25, 1932

	For Week Ending June 25	June 18
Texas Panhandle	52,100	51,800
North and West Central Texas	73,850	73,990
West Texas	176,200	175,590
East Central Texas	55,400	54,900
East Texas	331,800	337,950
Southwest Texas	52,325	51,440
Total Texas, outside of Gulf Coast	741,675	745,670
Texas Gulf Coast	112,120	111,800
Total Texas	853,795	857,470
Oklahoma City	95,250	117,500
Seminole	135,000	141,900
Other Oklahoma	192,000	192,100
Total Oklahoma	422,250	451,500
Ritz-Decker	12,850	13,150
Voshell	6,100	6,250
Other Kansas	79,150	87,450
Total Kansas	98,100	97,850
North Louisiana	28,375	28,550
Louisiana Gulf Coast	33,400	33,400
Total Louisiana	61,775	61,950
Arkansas	33,700	33,775
Long Beach	69,500	73,000
Santa Fe Springs	57,500	61,000
Midway-Sunset	50,500	50,000
Kettleman Hills	60,000	61,000
Other California	226,500	235,000
Total California	464,000	480,000
Wyoming	35,275	34,340
Montana	6,720	7,370
Colorado	2,990	2,910
New Mexico	34,080	34,560
Total Rocky Mountain States	79,065	79,180
Eastern States*	124,700	126,900
Total United States	2,137,385	2,188,625

*Includes Michigan.

Crude Runs Nearly 2,500,000 Barrels Daily

THE rush to buy gasoline prior to the imposition of the one-cent federal tax on June 21 resulted in a sharp increase in refinery operations last week. Runs to stills increased 81,000 barrels a day, attaining a new high rate for this year of 2,495,000 barrels a day. This means that in a period of but two weeks, refinery runs have been boosted to the extent of 153,000 barrels a day. Despite this presumably excessive rate of throughput, refinery stocks were drawn upon during the past two weeks to the extent of 1,187,000 barrels. In fact, last week, when runs rose to a new high level for the year, stocks of gasoline were drawn upon to the extent of 851,000 barrels, or at a rate of more than 121,000 barrels a day. This constituted a record-breaking volume of business, since the daily average demand for American gasoline amounted to approximately 1,368,000 barrels. In


THE OIL WEEKLY CHART
U.S. CRUDE PRODUCTION AND REFINERY RUNS
DAILY AVERAGE PRODUCTION (WEEKLY) FROM WEEKLY A.P.I. REPORTS
DAILY AVERAGE REFINERY RUNS (MONTHLY) FROM MONTHLY BUREAU OF MINES REPORTS
THOUSANDS OF BARRELS
1930
1931
1932

addition, the market also absorbed the usual volume of imported gasoline.

With the gasoline buying rush over, temporarily, refiners will probably experience a marked drop in shipments to the trade. This emphasizes the need for immediate curtailment of refinery operations, as the accompanying chart indicates that runs were maintained at an excessive level. If runs to stills are reduced back to the rate dictated by immediate market requirements for gasoline, the industry stands a good chance of holding the present price structure through the summer. If recent history is any criterion, it appears that refiners will make the necessary adjustments in operations immediately. It is confidently expected that runs to stills will show an immediate decline, although it may take a week or two to effect adjustments necessary to bring about a continuation of moderate withdrawals from storage. In fact, it would not be surprising to find that some gasoline was added to refinery storage this week.

Imports of All Oils Showing Decline

IMPORTS of all oil at Atlantic and Gulf Coast ports, according to the American Petroleum Institute, showed a decrease during the week ending June 18. Total imports amounted to 2,151,000 barrels, against 2,410,000 barrels in the preceding week. This was a daily average for the week of June 18 of 307,286, against 344,286, in the preceding week. The daily average for the past four weeks amounted to 314,393 barrels. Details of imports show that crude oil receipts dropped 488,000 barrels, while gasoline, gas oil and fuel oil receipts increased.

Crude Stocks Down in May

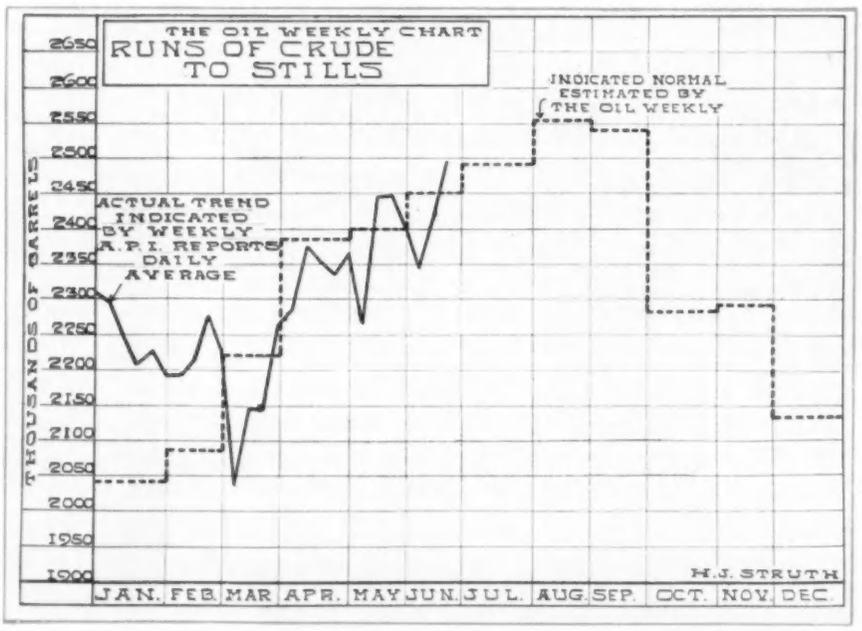
PIPE line and tank farm stocks of crude east of the Rocky Mountains decreased 4,191,000 barrels in May, according to returns received by the American Petroleum Institute. The above change was recorded for general crude stocks, including crude in transit but not producers' stocks at wells.

Gasoline Prices Off With Slackened Buying

THE gasoline market showed signs of a lower price trend during the past week, following the buying rush prior to June 21. Tank car shipments of gasoline from major refining centers dropped off sharply the day the federal tax of one cent was placed in effect and found many refiners confronted with the necessity for immediate curtailment of operations. This had an easing effect upon the wholesale market, bringing U. S. motor down about one-eighth of a cent per gallon. Easing of gasoline prices, however, was practically confined to the Mid-Continent, as prices were practically unchanged in refining centers of the East and Pacific Coast. The Gulf Coast gasoline market also held firm at recent high levels of from 5¼ to 5½ cents a gallon.

In the retail branch, it has been noted that some companies have absorbed the federal tax of one cent by posting a reduction in the price of gasoline to the consumer. Thus, in a number of instances, the imposition of the tax does not affect the ultimate consumer. The gasoline market in California has shown no change but expectations are that an advance in wholesale prices is imminent. It is believed that the major marketing companies of California are awaiting a definite move in the crude market before posting higher gasoline prices.

Fuel oil and gas oil prices at a number of refining centers have shown material market strength in the past few days.


THE OIL WEEKLY CHART
RUNS OF CRUDE TO STILLS
INDICATED NORMAL ESTIMATED BY THE OIL WEEKLY
ACTUAL TREND INDICATED BY WEEKLY A.P.I. REPORTS DAILY AVERAGE
THOUSANDS OF BARRELS
H.J. STRUTH
JAN. FEB. MAR APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC.

Crude Runs to Stills, Motor Fuel Stocks, Gas and Fuel Oil Stocks and Cracked Gasoline Production, for Week Ended June 18, 1932.

(Figures in barrels of 42 gallons).

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		MOTOR FUEL STOCKS					Gas and Fuel Oil Stocks	Daily Charging Capacity of Cracking Units			Cracked Production Daily Average
	Potential Rate	Reporting Total	Reporting %	Daily Average	% Operated	(a) At Refineries	(b) Bulk Terminals	(b) In Transit	(c) Other M.F. Stocks	Total Motor Fuel		Potential Rate	Reporting Total	Reporting %	
East Coast	633,700	633,700	100.0	490,100	77.3	6,354,000	10,422,000	2,076,000	445,000	19,297,000	6,998,000	261,300	236,300	94.1	75,400
Appalachian	149,600	137,400	91.8	98,300	71.5	1,536,000	445,000	10,000	340,000	2,331,000	1,053,000	56,300	54,100	96.1	26,000
Ind., Ill., Ky.	436,300	431,500	98.9	297,600	69.0	5,655,000	2,410,000	6,000	275,000	8,346,000	4,065,000	330,400	315,400	95.5	85,700
Okla., Kans., Mo.	485,700	435,200	89.6	236,300	54.3	3,388,000	959,000	.....	1,030,000	5,377,000	3,384,000	237,800	219,500	92.3	56,700
Inland Texas	305,700	233,900	76.5	122,000	52.2	1,377,000	59,000	.....	405,000	1,841,000	2,924,000	98,400	88,800	90.2	21,600
Texas Gulf	532,500	531,500	99.8	489,900	92.2	5,741,000	148,000	.....	380,000	6,269,000	7,240,000	352,400	347,400	98.6	95,300
Louisiana Gulf	147,500	147,500	100.0	122,900	83.3	1,696,000	205,000	36,000	30,000	1,967,000	4,275,000	77,000	77,000	100.0	23,100
North La.,—Ark.	85,600	83,000	97.0	53,700	64.7	109,000	43,000	.....	45,000	197,000	756,000	35,400	35,400	100.0	9,400
Rocky Mountain	160,900	143,800	89.4	32,800	22.8	1,856,000	.....	.....	25,000	1,881,000	679,000	99,900	98,400	98.5	9,300
California	914,500	884,100	96.7	462,300	52.3	13,550,000	.....	.....	2,975,000	16,525,000	98,024,000	190,800	190,800	100.0	49,900
TOTALS WEEK: June 18, 1932	3,852,000	3,661,600	95.1	2,405,900	65.7	41,262,000	14,691,000	2,128,000	5,950,000	64,031,000	129,398,000	1,739,700	1,663,100	95.6	452,400
June 11, 1932	3,852,000	3,661,000	95.1	2,330,100	63.6	43,911,000	15,044,000	1,784,000	5,950,000	66,689,000	128,374,000	1,739,700	1,663,100	95.6	448,300

Below is set out an estimate of total motor fuel stocks on U.S. Bureau of Mines basis for week of June 18, 1932, compared with certain June 1931 Bureau figures.

A. P. I. Estimate B. of M. basis Week June 18, 1932 (d)	41,862,000	17,044,000	5,950,000	64,856,000
U. S. B. of M. Motor Fuel Stocks June 1, 1931	45,800,000	13,757,900	4,639,000	64,196,000
U. S. B. of M. Motor Fuel Stocks June 30, 1931	41,198,000	14,139,000	4,828,000	60,165,000

(a) Stocks at refineries, except in California district, which includes stocks of finished gasoline and engine distillate at refineries, at water terminals and at sales distributing stations and any amounts in transit thereto.
(b) By districts, East of California only. In California, bulk terminal and in transit stocks are included under "At Refineries" heading. See note (a).
(c) Estimated. Includes motor fuel in pipe lines and unblended natural gasoline at refineries and plants, also blended M.F. at plants.
(d) Estimated to permit comparison with A. P. I. Economics Report which is on Bureau of Mines basis.

Lubricants are quoted to the trade at four cents above official quotations to include the federal tax. Actual refinery prices of U. S. motor gasoline in Group 3 are now about 5⅞ cents, including one cent tax. Group 3 prices on 200 vis. neutral oil range from 21¾ cents to 27½ cents a gallon, including tax. Natural gasolines showed a softening tendency during the past week in the Mid-Continent, while kerosenes also eased off in price, as a result of slackening demand.

Mid-Continent Gasoline Holds Ahead of Expected

THE Mid-Continent market situation was none too strong during the past week and yet it had not receded as many thought it might. Prices had not changed materially from those of the preceding week except in a few instances where smaller concerns were selling insignificant amounts of stuff below the market. It is believed that buying will be practically at a standstill during the next two or three weeks due to the general buying spree which preceded June 21. When it was learned that Congress planned to amend the revenue act so as to limit the amount of gasoline and lubricating oil that jobbers could hold tax free as of June 21, many contracts were cancelled but the move was not made until after gasoline movement had greatly exceeded current demand. No estimates are available concerning the amount of overstock accumulated within recent weeks in jobbers storage but it is evident from deliveries made to certain resellers that they will not be buying for the next few weeks.

Mid-Continent refiners are expected to reduce runs to stills probably by as much as 25 per cent in some instances to take the rebound of the buying orgy. With runs curtailed to the proper point and materialization of expected increases in consumption during July and August, the present price structure may remain almost intact. To keep in line with this step by the refiners, producers will be forced to reduce production.

Summarized Review of Field Results

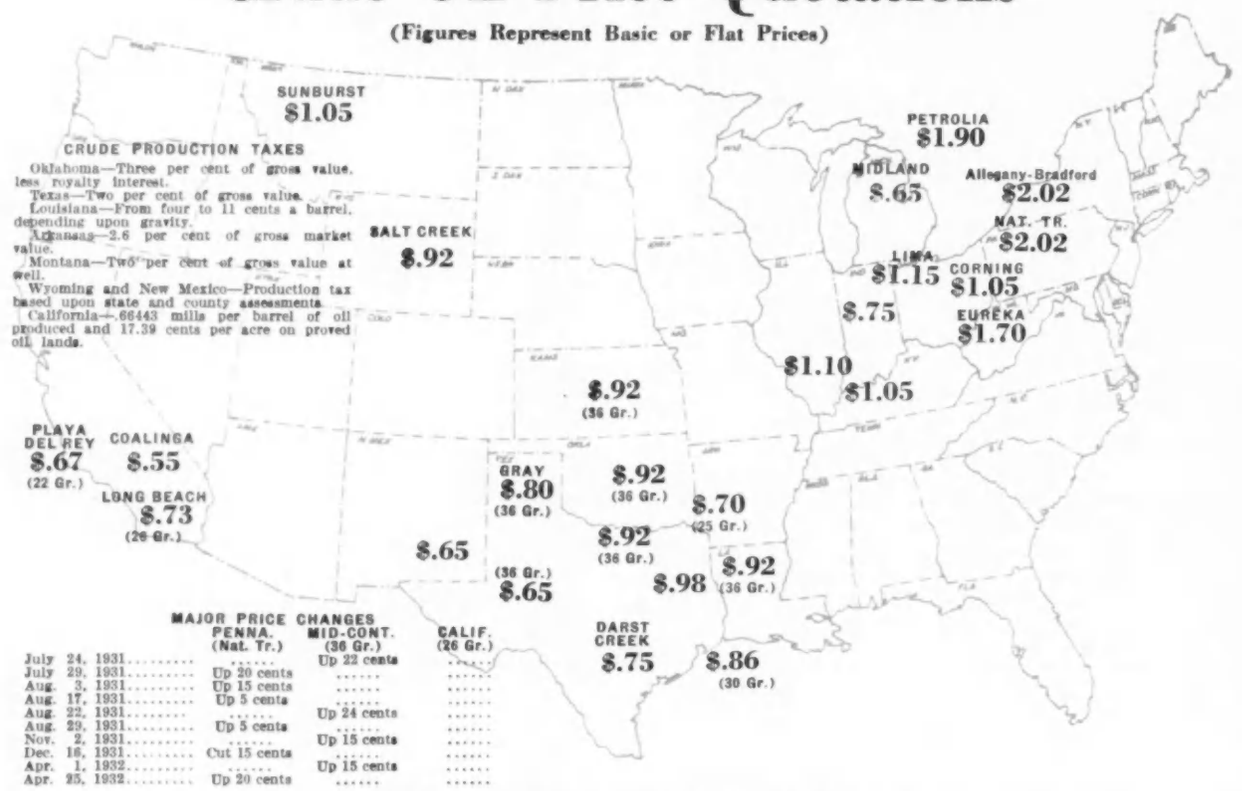
	Completions	Oil Wells	Gas Wells	Failures	Initial Prod.
Arkansas	4	0	0	4	0
California	5	3	0	2	6,800
Illinois	0	0	0	0	0
Indiana	8	1	3	4	30
Kansas	13	8	0	5	4,063
Kentucky	8	6	0	2	280
Louisiana	8	3	1	4	270
Michigan	2	1	0	1	600
Mississippi	4	0	2	2	0
New Mexico	0	0	0	0	0
New York	4	3	0	1	6
Ohio	9	5	1	3	65
Oklahoma	29	13	2	14	11,470
Pennsylvania	14	11	2	1	47
Texas	238	205	5	28	1,448,382
W. Virginia	8	1	2	5	1
Miscel.	0	0	0	0	0
Totals	354	260	18	76	1,476,008

Comparison of Permits Granted for New Wells

	For week ending June 24	Total this month	Total this year	Total this date last year	1931 year total
Arkansas	0	1	9	23	34
California	3	17	161	218	342
Louisiana	17	43	232	172	309
Kansas	12	61	295	242	475
Oklahoma	27	107	538	498	842
Texas	197	921	4256	2838	6961
Totals	256	1150	5491	3991	8963

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
July 24, 1931	.....	Up 22 cents	.....
July 29, 1931	Up 20 cents	.....	.....
Aug. 3, 1931	Up 15 cents	.....	.....
Aug. 17, 1931	Up 5 cents	.....	.....
Aug. 22, 1931	.....	Up 24 cents	.....
Aug. 29, 1931	Up 5 cents	.....	.....
Nov. 2, 1931	.....	Up 15 cents	.....
Dec. 16, 1931	Cut 15 cents	.....	.....
Apr. 1, 1932	.....	Up 15 cents	.....
Apr. 25, 1932	Up 20 cents	.....	.....

Official Postings and Differentials

(Revised to June 24, 1932)

California: (Effective June 19, 1931).

Signal Hill, Seal Beach and Alamitos Heights: 14 to 22.9 gravity 65 cents; 23 gravity, 67 cents with differential to two cents for each degree upward. Top price for Signal Hill, 30 gravity, 81 cents; top price Seal Beach and Alamitos Heights, 27 gravity, 75 cents.

Huntington Beach: 14 to 21 gravity, 65 cents; 22 gravity, 66 cents with differential of two cents for each degree upward. Top price, 27 gravity, 76 cents.

Inglewood: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity, 76 cents.

Playa Del Rey: 19 to 20.9 gravity 65 cents with differential of one cent for each degree upward. Top price, 25 gravity, 70 cents.

Olinda and Brea Canyon: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents; 22 gravity 68 cents with differential of two cents for each degree upward. Top price, 28 gravity, 80 cents.

Coyote Hills: 14 to 22.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents with differential of two cents for each degree upward. Top price, 28 gravity, 79 cents.

Santa Fe Springs: 24 to 26.9 gravity 65 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 73 cents; 30 gravity 75 cents; 31 gravity 78 cents; 32 gravity 80 cents; 33 gravity 83 cents; 34 gravity 85 cents; 35 gravity and above 87 cents.

Whittier, La Habra and Montebello: 65 cents a barrel.

Torrance: 14 to 21.9 gravity 65 cents with differential of one cent for each degree to 25 gravity and two-cent differential for 25 gravity. Top price, 25 gravity, 70 cents.

Richfield: 14 to 20.9 gravity 65 cents; 21 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity, 74 cents.

Elwood: 33 gravity 79 cents; 34 gravity 81 cents with differential of three cents for each degree upward. Top price, 36 gravity, 87 cents.

Newhall, McKittrick and Kern River: 55 cents a barrel.

Midway-Sunset, Elk Hills and Buena Vista Hills: 14 to 21.9 gravity 55 cents; 22 gravity 56 cents; 23 gravity 58 cents; 24 gravity 61 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 74 cents; 30 gravity 76 cents.

Lost Hills: 14 to 20.9 gravity 55 cents; 21 gravity 57 cents; 22 gravity 59 cents; 23 gravity 60 cents; 24 gravity 62 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 67 cents; 28 gravity 69 cents; 29 gravity 71 cents; 30 gravity 72 cents.

Coalinga: 14 to 24.9 gravity 55 cents; 25 gravity 57 cents.

Wheeler Ridge: 55 cents a barrel.

Athens, Dominguez and Rosecrans: 24 to 24.9 gravity 69 cents with differential of two cents for each degree upward. Top price, 34 gravity, 89 cents a barrel.

Oklahoma, Kansas, North Texas (Effective April 1, 1932).

Below 29 gravity: 76 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at $1.00.

Texas Panhandle: (Effective April 1, 1932)

Gray County: Below 35 gravity: 71 cents, with differential of 2 cents for each degree to 40 gravity and above which is posted at 88 cents.

Carson and Hutchinson Counties: Below 35 gravity: 66 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at 78 cents.

West Texas: (Effective April 1, 1932).

Crane-Upton, Crockett, Ector, Howard-Glasscock, Pecos and Winkler Counties, Texas, and Lea County, New Mexico: 65 cents a barrel.

Southwest Texas: (Effective April 11, 1932)

Refugio: Heavy 80 cents.
Refugio: Light: (Same as Gulf Coast—see below).
Gulf Coast: (Effective April 1, 1932).
Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble and Refugio Light: Below 25 gravity: 80 cents, with differential of 1 cent for each degree to 40 and above which is posted at $1.00.
Mirando: 80 cents; **Salt Flat:** 75 cents; **Darst Creek:** 75 cents; **Pettus:** $1.00; **Markham:** Same as Gulf Coast.
East Texas: (Effective April 1, 1932)
Flat Price: 98 cents.
North Louisiana and Arkansas: (Effective April 1, 1932).
Caddo, Homer, Haynesville, Bull Bayou, Sabine, Cricton, De-Soto, El Dorado, Cotton Valley, Sarepta, Cartersville: Below 25 gravity 68 cents with differential of 2 cents for each degree beginning with 25 gravity and ending with 40 and above. Top price $1.00 a barrel.
Smackover: 65 cents.
Rocky Mountain States: (Effective April 11, 1932).
Salt Creek: Below 29 gravity 76 cents; 29-29.9 gravity 78 cents with differential of 2 cents each degree to 40 and above. Top price $1.00.
Elk Basin and Grass Creek: $1.20; **Big Muddy:** 98 cents; **Lance Creek,** $1.15; **Rock Creek:** $1.00; **Sunburst:** $1.05; **Osage:** 98 cents; **Cat Creek:** $1.20; **Pondera:** 90 cents; **Hogback, New Mexico:** 80 cents.
Mid-Western States: (Effective April 11, 1932).
Lima: $1.15; **Indiana:** 75 cents; **Illinois:** $1.10; **Princeton:** $1.10; **Wooster:** $1.25; **Western Kentucky,** $1.05.
Pennsylvania: (Effective April 25, 1932).
Bradford District: $2.02; **National Transit Oil:** $2.02; **Southwest Pennsylvania Pipe Line Oil:** $1.75; **Eureka Pipe Line Oil:** $1.70; **Buckeye Pipe Line Oil:** $1.55; **Corning Crude:** $1.05.
Michigan: (Effective May 17, 1932), **Midland:** 65 cents a barrel. **Muskegon:** 76 cents to $1.00 a barrel.
Canada: (Effective Nov. 3, 1931).
Petrolia: $1.90; **Oil Springs:** $1.97.

No Matter How, They Do It

Eventually

East Texas Promises A Real Pumping Problem

JACK LOGAN
Staff Representative

OUT of somewhat more than 6000 producing wells in the East Texas field all but about 200 are still flowing naturally, the wells which must be pumped being characterized for the most part by relatively poor sand conditions; and success attending state-enforced proration promises to stay off the pumping stage for most wells for possibly two or three years.

Some of the East Texas operators, in consequence, have not been greatly concerned with the prospects of having to pump their wells, taking the attitude that "Sufficient unto the day is the evil thereof."

It is a generally recognized fact, however, that pressures within the producing sand of the field are slowly but surely declining; and producers who are in the area to stay are beginning to give serious thought to the pumping problems which they know they must inevitably face.

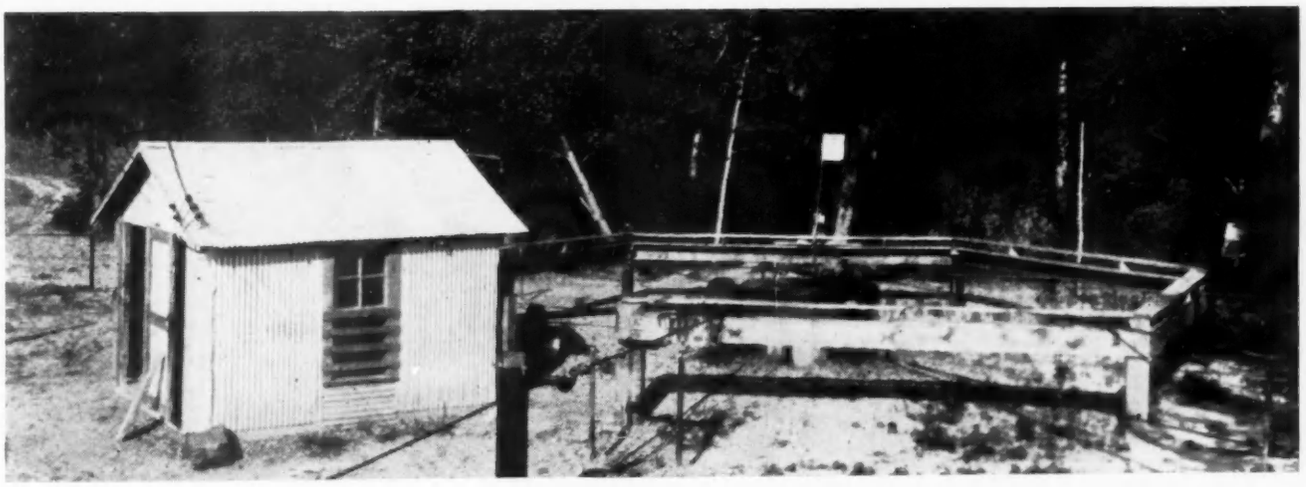
Present ideas of engineers upon the pumping equipment and practices likely to prove most adaptable are naturally somewhat vague and open to revision, since the conditions which will be encountered after the field has grown older cannot be clearly or definitely foreseen.

In the light of what is already known, however, and of conditions which appear likely to develop, some rather definite opinions can be formed as to the pumping equipment and pumping programs which will probably be employed.

In the first place, it is likely that proration, which has proved generally popular as applied to the field during its flowing life will likewise be sanctioned and applied after the flowing period has been succeeded by the pumping stage. Continuation of proration will of course mean relatively small allowable daily production for all wells. It appears certain that there will be at least 10,000 producing wells in the field ultimately. That number would be reached within six months under continuation of the current development rate, involving completion of about 150 new wells per week. Continuation also of the current proration program, limiting the field's total output to 325,000 barrels daily, would mean restriction of each of the 10,000 wells to 32½ barrels daily, as against the per well allowable of 54 barrels daily in effect during the first half of June.

From the foregoing, it appears that an important feature of the pumping program in East Texas, will be the handling of a relatively small volume of oil daily in each well. Since salt water is coming into the sand from the west and from below in certain areas, it will be necessary to handle some water in connection with the oil in many of the wells, the amount varying for different wells. Engineers are hopeful, however, that under the orderly withdrawal program there will not be necessity for handling great quantities of water in any wells as a rule, anticipating that it will be possible for an operator to produce all the oil that he is allowed to produce in a day by a virtual "skimming" procedure, pumping merely off the top of the fluid column.

Regulations enforced by the railroad commission tend, furthermore, to reduce the probability of excessive volumes



The original central power pumping installation in the East Texas field, lifting oil in wells of H. L. Hunt in the Joiner district, and employing electricity as the source of power.

of salt water being handled. The commission requires that all wells producing as much as two per cent salt water be reported, and that they be plugged back until the top of the sand is 10 feet above the water table, or when such is not possible, the well is allowed a maximum of three feet of producing sand above the top of the plug. All wells encountering the top of the producing sand at 3300 feet below sea level or lower are limited to a maximum penetration of two-thirds the distance from the top of the sand to the water table.

Still another factor which will tend to hold down volumes of salt water will be the lack of facilities or means for disposing of the water. Only a negligible amount of water is being dealt with, less than 100 wells in the field showing water trouble; and very limited facilities have been provided for water disposal. Production of salt water in the field upon a large scale would no doubt force many wells entirely off production.

Consideration of the various above factors indicates that proration and difficulty of disposing of salt water will result in general practice of setting pumps at relatively high levels in order to "skim" off the oil.

Central Power Units May Be Effective

In view of the relatively small quantities of fluid which appears likely to be handled in most wells, it is indicated that central power installations, with possibly 10 or 12 wells pumping off each unit, may prove effective, despite the fact that depths of the wells range from 3600 to nearly 4000 feet.

Central power units offer such favorable possibilities, in fact, that at least four of them have already been installed, two on the H. L. Hunt leases in the Joiner area, and two others in that same portion of the field.

The first of the above units was installed in the early history of the field, for it was recognized even then that the eastern edge of the productive area offered favorable possibilities for pumping groups of wells in unison, the producing depths being the shallowest in the field, and likelihood of water intrusion being very remote. Successful application of proration, however, has indicated practicability of similar pumping also for wells farther west.

On the extreme western edge of the field where salt water encroachment will offer greatest trouble, the wells are most likely to yield high volumes of water, and individual pumping units will probably be required.

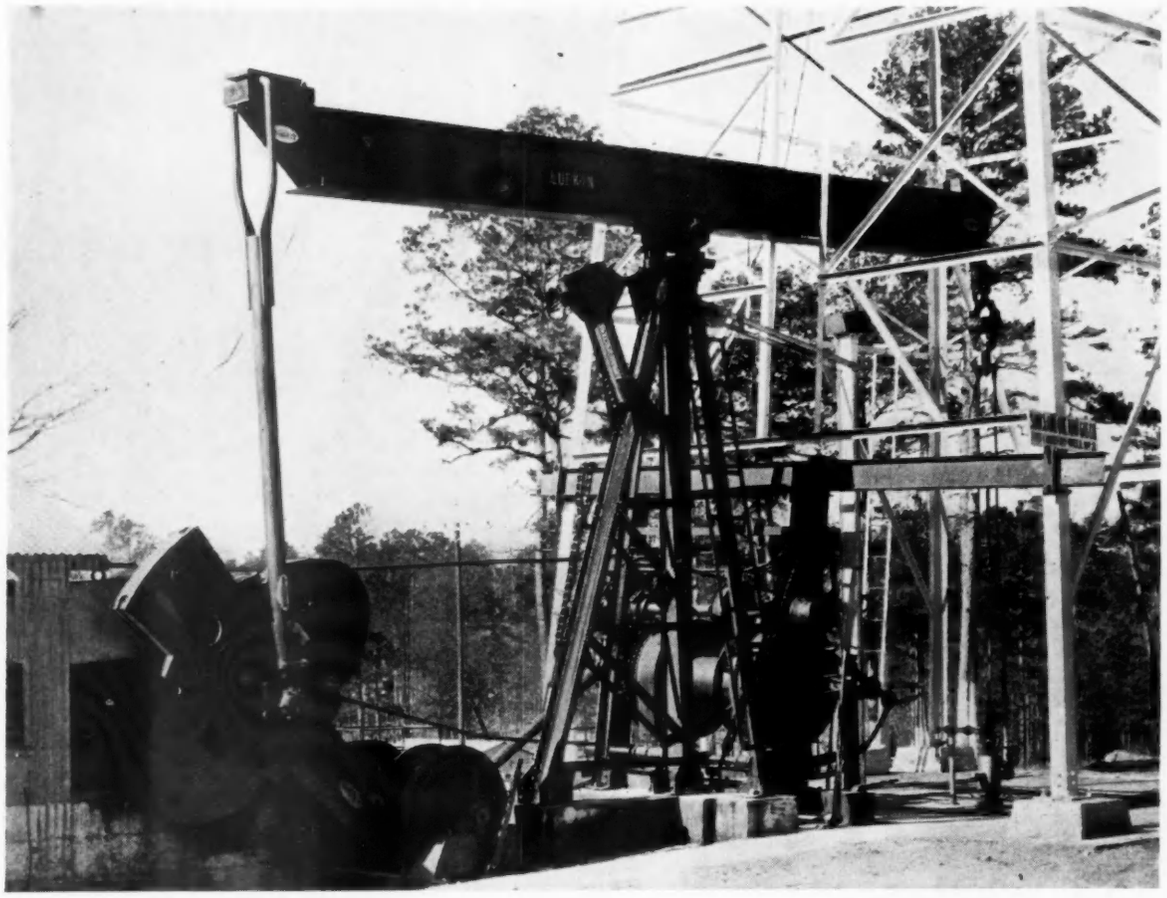
Among the wells which are at present being pumped individually, gas engines are proving popular as prime movers, since gas is readily available at reasonable prices, either from wells in the field or from the lines of distributing companies serving the area.

Flowing Devices Being Employed

While various types of pumps and pumping equipment assemblies are being used on the relatively few East Texas wells which can produce their proration allowances only through artificial lifting methods, devices of another nature have found some application, and are reported to give satisfactory results. The instrument which is referred to is a flowing device, which will in some instances induce a well to flow long enough each day to produce its proration quota even though the well is incapable of maintaining continuous flow. Various devices of this nature, differing in details of construction, but working along the same general principle, are on the market, and several have been tried and found practicable in East Texas. Devices of this nature may be installed for only a few hundred dollars, ordinarily, and they are consequently looked upon with much favor, since they promise to postpone for a while, at least, the necessity for investments in pumping equipment. In this connection, incidentally, there lies a justification for proration which has not hitherto been given much recognition. For it is the restriction of each East Texas well's output to a relatively small volume of oil daily which makes the apparently economical and efficient flowing device practicable.

The principle upon which the apparatus works involves

Jacks are installed on many East Texas wells, despite their depth, in anticipation of continuation of proration keeping the volume of liquid to be lifted low. While on the other hand (next page)



Individual pumping units are being installed in anticipation of eventually handling large volumes of fluid. This unit is on Sinclair Oil & Gas Company's Daisy Bradford Lease, Joiner.

cashing in on the gas pressure which develops in the well above the fluid level during the shut-in interval between the daily production periods. With the well restricted to small daily production, the quota can be produced within a brief interval of not more that a few hours. It is then closed in, and is not again opened until the next day. The flow device is installed in the tubing string, at some point below the level at which the fluid is standing in the tubing and the casing, and it has a lead-off pipe of small diameter extending up along the outside of the tubing to some point in the casing above the fluid level. When the well is shut in, gas begins accumulating in the casing above the fluid level, separating out from the oil column in the well. The next day, as explained by makers of the different flow devices, when the valve at the top of the tubing is opened, the gas which has accumulated in the upper portion of the casing rushes down through the lead-off pipe, entering the tubing, which serves as the oil string, and pushes upward in the tubing, inducing oil to flow up through the tubing with it, thus affording a jetting action, and "kicking" the well off, initiating a flow, which the well then maintains long enough for the proration allowance to be recovered. Some engineers have not become convinced as to the practicability of this relatively new device, pointing out that the oil in East Texas has in association with it a relatively small amount of free gas, which is needed in operation of the device. Various producing companies, however, have tried several of these devices, and having found them to work satisfactorily, have installed them in some wells.

Summary and Conclusion

While East Texas operators in general are not yet giving a great amount of consideration to pumping problems, which are sometimes considered as being too far in the future for immediate attention, they are more or less generally agreed that orderly production as practiced under the existing proration program has a beneficial effect upon the field; and the primary consideration at present is maintenance of the flowing life of the area over as long a period as possible.

It appears likely, also, that when the natural flow has ceased, the operators in general will have become so well convinced of the benefits of proration, that there will be no serious opposition to continuance of restricted production programs as applied to the pumping wells. The anticipated continuation of such a program, while quite possibly increasing ultimate recovery through fully utilizing gas energy and minimizing the trapping of oil by salt water, is also expected to lower the amount of water which must be handled.

With relatively few wells incapable of flowing their daily proration allowances at present, the pumping life of the East Texas field still lies for the most part in the future; and since there will probably be from 10,000 to 15,000 wells ultimately, the field not only constitutes a vast potential market for makers of pumping equipment, but it will no doubt also prove a valuable testing ground for new ideas in lifting oil by artificial methods and will quite likely bring forth numerous advancements in pumping as well as general production practices.

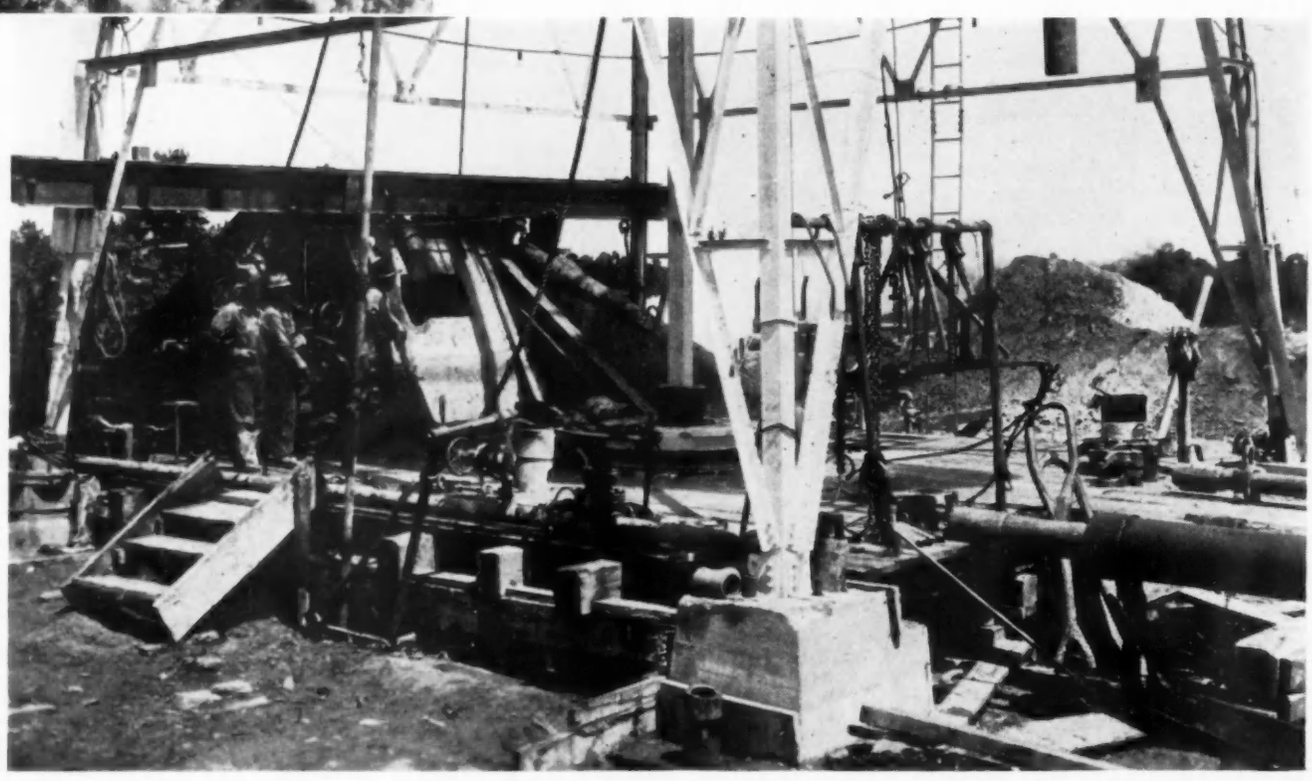
Roy Case, Head Driller on Humble Oil & Refining Company's Rig No. 89 (below) which has a record for speed in drilling in East Texas.

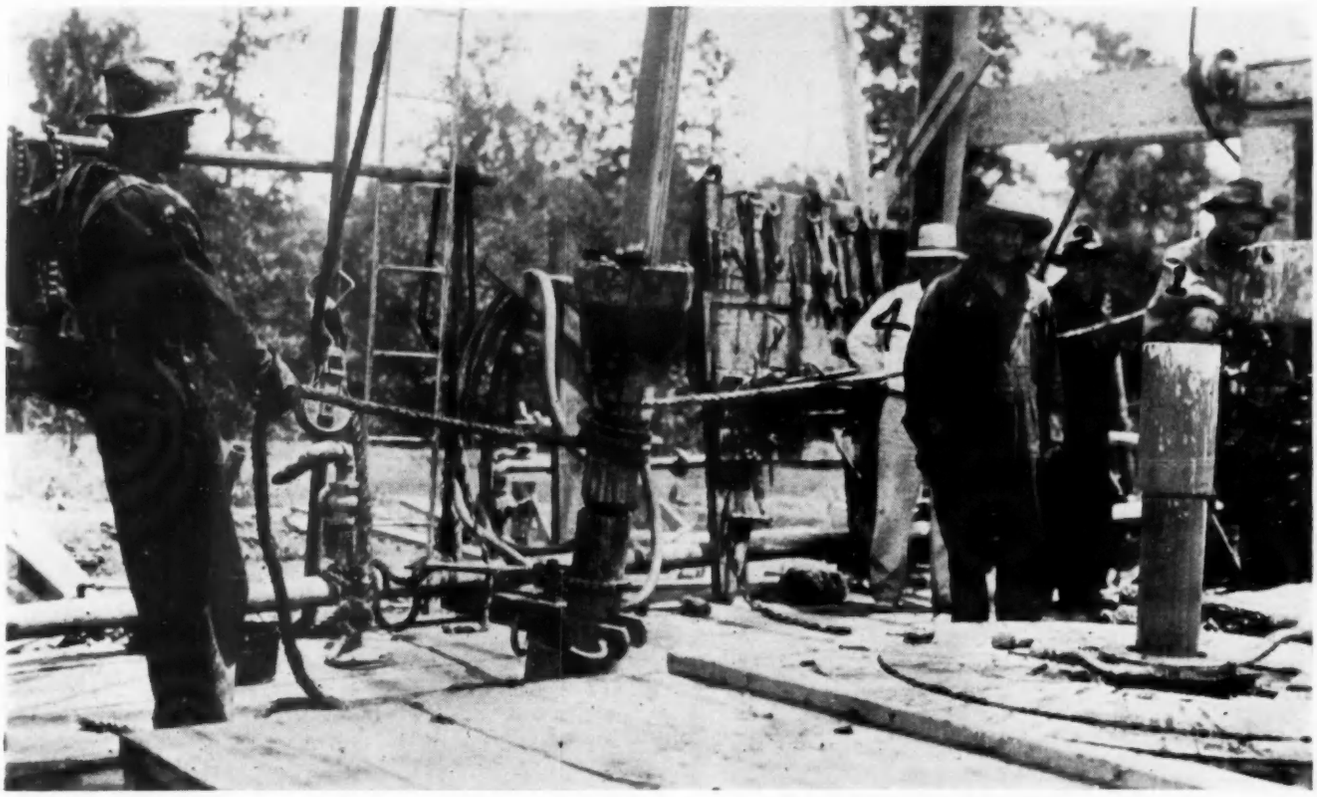
Efficient Men and Methods

Establishing Drilling Records *for* EAST TEXAS

THERE have been many remarkable records made in many different lines of work in the East Texas oil field but there are few that can equal the one made by a drilling crew of Humble Oil & Refining Company. This crew has maintained a pace for a period of a year in completing wells until their fame is so renowned that they might be designated "The World's Fastest Well Diggers." One rig and drilling crew have a record of completing 24 wells at an average depth of 3750 feet in 366 days in the East Texas field or an average time of 15.2 days per well, including time consumed in moving on, rigging up, drilling, cementing, putting the well on production, and dismantling the rig. Other rigs and crews have equaled and bettered the time on individual wells, but for every-day consistent performance this is a record to shoot at. Also these 24 producers have been completed at a cost considerably below the cost of an average well of the East Texas field.

When hearing of break-neck speed in drilling and completing wells, one naturally assumes an attendant waste of material, a high percentage of parts replacement and a bad personal and mechanical accident record. The first two assumptions have been successfully contradicted by the low average cost per completed wells. Not only is the





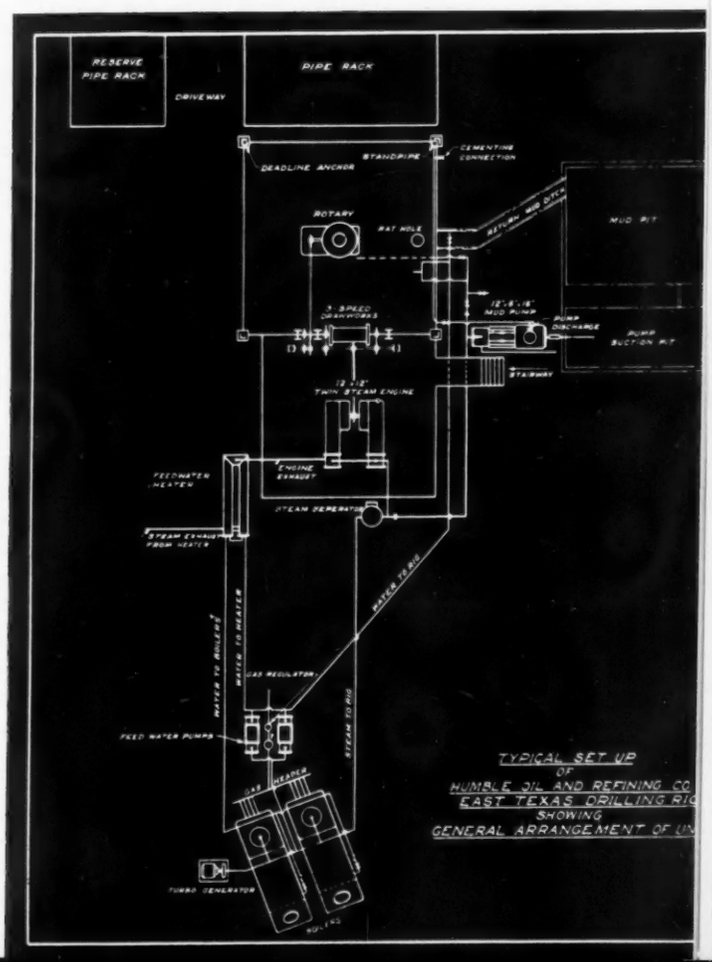
Connecting the Kelly to drill pipe in the rat hole, where the pipe was put by using the calf wheel without stopping the drill. This is one feature of the speed. The men in the picture are: 1 W. L. Burton, 2 Delmar Baucum, 3 H. S. McGarry, district superintendent, and 5 Earl Richardson.

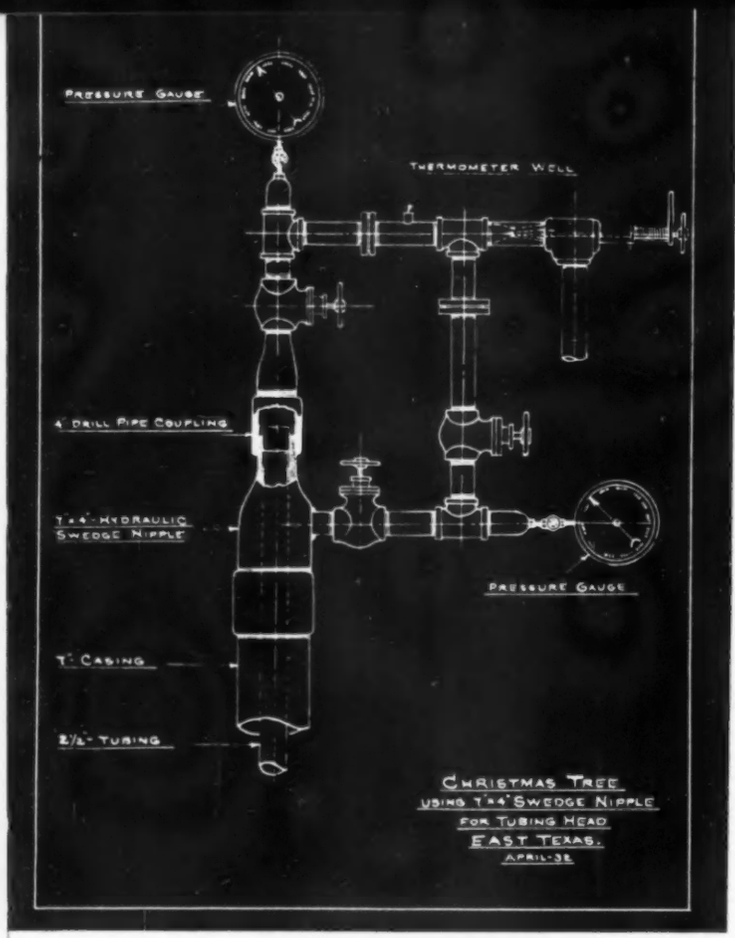
third contradicted, but the chances that the drilling crews who completed the 24 wells in record time have created another record in the matter of accident elimination, i. e., personal accidents. Throughout the 366 days involved in moving on, rigging up, drilling and putting on production the 24 wells, a total of three man-days have been lost; two men were involved, and both accidents were of a minor nature. Also in the matter of mechanical accidents, the record is clear, no fishing jobs having occurred while drilling.

The crews that are making records are doing so with drilling equipment that has already seen much service; nor have any of them been favored as to locations. When one well is completed the location chosen for the rig's next operation is not arbitrarily chosen so as to have smooth ground between it and the derrick from which the rig is to be moved, but the move must be to the waiting location wherever it may be. From measurements available, the rig completing the 24 wells moved a total of 24 miles after drilling the first well on an average of one mile between locations. Another rig, classed as Humble Oil & Refining Company's next fastest, averaged only ½ mile between 19 locations, indicating that preferences are not given in the matter of locations.

Drilling Equipment

One might surmise that in order to build up these drilling records the crews are favored with the best drilling rigs, but these crews are operating rigs similar to 24 other rigs operated by Humble Oil & Refining Company in East Texas. These rigs are equipped with two boilers of 85 or 90 horsepower rating, one 12x6x16-inch mud pump, three-speed drawworks, 26-inch make and break rotary, 12x12-inch roller bearing steam engine mounted on steel foundation, six-inch swivel, seven-inch hook, 72-inch, three-sheave traveling block, five-sheave straight line crown block, 3-inch x 45-foot rotary hose, 6-inch x 36-foot Kelly and 6⅝-inch x 30-foot, 25.2 pound drill pipe with tool joints at every connection. The manner of placing of this equipment is shown in the diagram entitled "Typical Setup," and





is the standard hookup of the various units on all rigs wherever conditions will permit. By adopting a standard for assembling the rigs, the old adage of "A place for everything and everything in its place" is followed.

The total of all types of bits used by the crews in drilling 21 wells was 241, or an average of 11.5 bits per well. An average of 103.9 feet was obtained from each of the 27 surface fishtail bits used, but the smaller fishtail bits used after surface pipe had been set, established an average footage of 379.9 feet per bit. Only one large rock bit to drill 10 feet of rock was used. However, 16 smaller rock bits were required in drilling 21 wells, averaging 61.5 feet per bit. The sizes of surface fishtail bits were 14-inch and 18½-inch, and 9⅞-inch bits were used for deeper drilling. All these smaller fishtail bits, except three with detachable cutters, were dressed in the company shop.

The above bit record on this rig is better than the average, both in number of bits per well required and average footage per bit. The bit record possibly helps to explain why the average time of 15.1 days for moving in, rigging up, completing and tearing down was possible. The only reason for coming out of the hole 99 per cent of the time was to put on a new bit; and this factor alone would explain a considerable saving time.

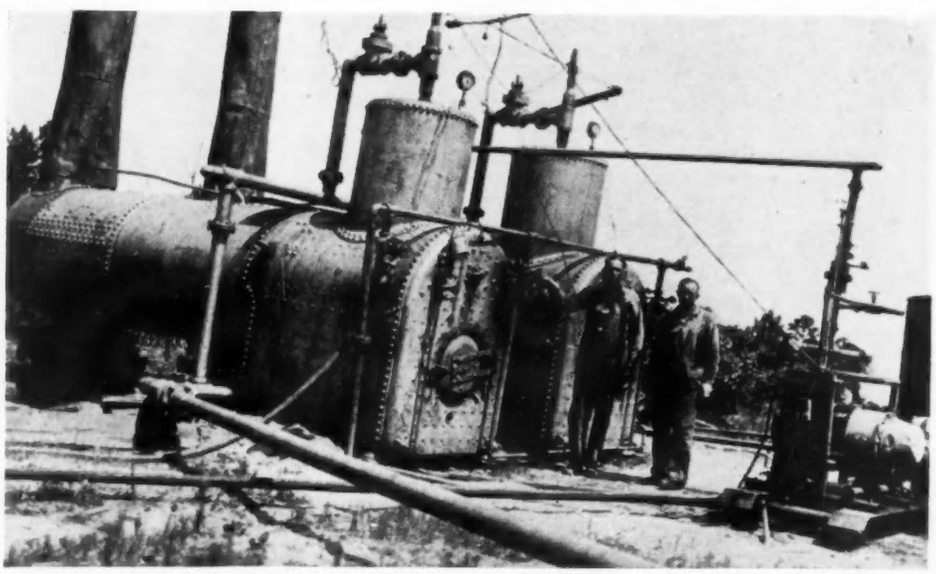
As for drilling straight holes when operating under "hi-speed," only three of the 24 wells drilled had a deviation at the Austin chalk of more than 3.0 degrees, and the average deviation at this point for the 24 wells was 2.6 degrees, which is not enough to interfere with flowing or pumping operations. In fact, a deviation of as much as 5.0 degrees is not thought serious enough to cause unusual pumping troubles in East Texas. However, it should be pointed out that the high rate of drilling speed probably was responsible for a deviation of more than 3.0 degrees in the three wells.

The story of the laudable performace of these drillers in direction and inspiration of their crews would not be of especial benefit to other producers in East Texas if something of the "how" were not injected into the story.

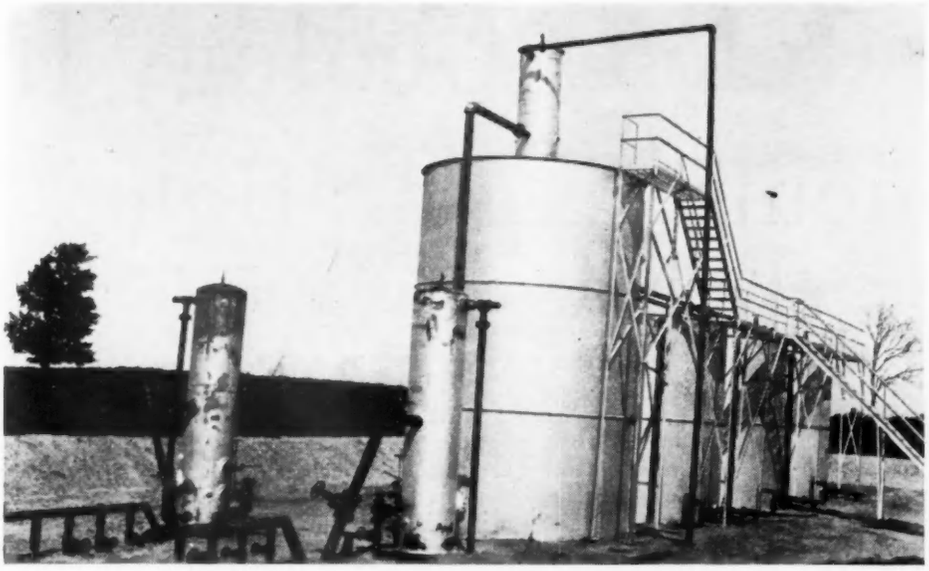
Starting with the rigging-up process on a well to be drilled, each man of the three crews has a very definite part to play. He has so many pieces of the complete drilling unit to assemble. He knows how many and what types of wrenches will be required for this work, and he is expected to jump in and go to work in full possession of every tool he will need. He knows in what order the assembled parts of a unit must be applied to the whole, and times his performance accordingly; i. e., he will not dally early in the rigging-up process with a piece of work that will not be needed until rigging up is about completed. The average time for rigging up each of the 24 wells drilled was cut to 2.4 days by such team work. The company's next fastest rig in the same district has crowded the record with an average rigging-up time of 2.7 days. The illustration of the unit diagram presented herewith is one which the crews have been taught to know by heart, and this understanding of the part one portion of the unit is to play in relation to another part has been valuable in saving time while rigging up.

The next step is spudding and drilling. It goes without saying that the drillers keep the rotary rotating at a fast pace, with the right amount of pressure on the bit. One important time-saving practice is that while the driller is making hole, the crew makes use of the cathead to haul a spare joint of drill pipe up into the derrick and drop it into the "rathole," having it greased and in position so that it can be stabbed with the lower end of the "Kelly" without any delay.

Another time-saving practice occurring during drilling time, which should be credited to rigging-up time, is that minor details of rigging up are left until the surface casing is set. In this manner, spudding time has been moved forward and the time the crew might wait while cement is



Boilers used on Humble's Rig No. 47. The men are Roy Cross and B. V. Matthews



Humble Oil & Refinery Company's Standard Tank Battery

setting is utilized in completing these minor details of rigging up. During this same period, waiting for cement to set, parts of the rig which will not be needed any more on the location are moved to the next location, or possibly those used on the previous location which will be needed eventually on the present location are moved in. The men have been taught, it seems, that timing actions to needs in chronological sequence is just as important as rushing like mad all the time—more so if the rush is without system.

Use of cement time while the final string is setting offers more possibility of cutting down the elapsed time on a job. The men use it to get everything in shape for running tubing and completing the well. The Christmas tree hook-up, as shown, is standard and the men know how to put it on and just when it will be needed, and whether to prepare it in such a way as to wash the well or swab it in. It is ready to go on the minute it is needed, not the hour it is needed, not the morning or afternoon it is needed. During this period, eyes are cast again to the next prospective location, and more material moved over.

Anticipate Repairs and Supplies

All of the close timing employed presupposes a perfect mechanical condition of the rig. Maintenance effort must deserve an A-1 grade to warrant such presupposition. This is only possible through hawk-like watching of parts that are apt to wear rapidly. Members of the crew are expected to anticipate replacements and have the needed part on hand before its installation becomes necessary. The same anticipatory policy applies with reference to supplies of all nature, except, of course, those parts and supplies, the need of which can not be anticipated.

Lubrication is mentioned as one of the prime factors in rig maintenance. Zealous attention to this factor is responsible as much as anything for the record established, outside of the personal industry previously mentioned. Not only is each part of the rig lubricated at specified intervals, but specific products are used for specific purposes. Another argument which tends to justify crankiness on the subject of lubrication is the service obtained from rotary chains. Obviously, the strain on this piece of equipment would be far greater on a fast rig than on one driven moderately if normal conditions prevailed. But it seems that this record-making rig has got more out of its chains than rigs driven at a much less vigorous pace.

Primarily, this article is to pay tribute to the men that constitute the drilling crews of which Humble Oil & Refining Company is justified in being proud. Credit, however, should be given also to the other efficient crews of the same organization and other operators who have crowded these men for honors in the field.

So back of it all there is more than just the enthusiasm of a peppy bunch of roughnecks. Their accomplishment merely happens to be one of the more apparent fruits of a policy of training the men in the field in sound drilling practices.

Mud Pump on Rig No. 87

Present Role of Geology In Petroleum Exploration

STANLEY HEROLD

Consulting Geologist and Petroleum Engineer, Los Angeles, Calif.

AREAS to be mapped geologically may be divided into three classes, according to geological instruments adaptable to each. First we have the areas where great thicknesses of bedded deposits of sandstone, shale and limestone stand at an angle of inclination greater than five degrees from the horizontal. A topographic map serves as a base for the aereal geology with its structural dips and strikes in evidence. The transit and clinometer here serve their purpose. Secondly, we find areas with these deposits inclined at angles less than five degrees. Frequently the inclination can not be expressed conveniently by degrees, but rather by dips in feet per mile. For such areas we use the telescopic alidade and plane table, and a plain sheet of paper serves as a base. Topographic features of especially prepared base maps are unnecessary. Thirdly, we have those areas where bedded deposits lie upon or adjacent to buried granitic mountains or massive cores of rock salt. For these the torsion balance and seismograph have come into use. The magnetometer has also been tested here.

STANLEY HEROLD

The value of an instrument is of course known by its results. The torsion balance and seismograph have proved themselves valuable under the conditions stated above. The discovery of productive areas in Texas and Louisiana can be accredited directly to the use of these instruments. As yet not one producing area has been found in this way in California. Buried masses of heavier or lighter density are easily interpreted, but in regions where these do not occur, the interpretation of measured anomalies pertains to the folding and faulting of strata quite uniform in density. We have not learned to make these interpretations in a reliable manner. Greater yet is the darkness surrounding the interpretation of anomalies easily measured by the magnetometer. Probably we shall acquire greater skill in the use of these geophysical instruments, but it seems that progress will be slow because of a reluctance to take the risk of a non-productive hole in a country which still has large areas wherein more certain methods can be applied.

Air Mapping

The instrument of importance today in all areal geological work is the aeroplane with its photographic apparatus. At a reasonable cost a base map can be made for subsequent field work. All topographic features appear clearly, and frequently the minor features of geological structure, such as faults and changes in vegetation, the latter indicating changes in soil formation, can be observed with ease, whereas their detection in the field by a party on foot is difficult, if not impossible. Not only does the geologist use these base maps, but often he himself, as a passenger, flies over the area for hours watching for new views as the shadows alter with the change of the sun's position.

We know better today than before how the folding and faulting of strata, how the lithologic character of strata, and how the manner of deposition of strata, affect the accumulation of petroleum in commercial deposits. Experience has broadened vision. The folds may be gentle or intense, symmetrical or otherwise, and they may or may not be accompanied by faults; yet they may be prolific. Sandstone which appears in a hand specimen to be quite unattractive because of fine grain and evident compact nature, proves to be an abundant source of oil and gas at depth. Its porous nature was unquestioned, but its permeability deceives. Under the high pressures existing at great depths this type of formation acts readily as a conduit of fluids in their motion toward the wells. Progressive folding during deposition of silt and sand is now more clearly recognized in many regions. As a result the strata are frequently thinner on the crest of a fold than on the flanks, and beds of shale and sandstone often "feather out" or "pinch out" completely as they approach the flanks of the fold. That such a sandstone can hold a quantity of oil and gas without leakage during the geologic ages since accumulation is obvious.

Test Holes

Exploratory holes of shallow depths, ranging from 500 to 2500 feet, are drilled for geological purposes only. By means of the cores are located "key-beds" which are quite distinctive and therefore easily recognized over an area suspected of containing a favorable structure which is obliterated at the surface by sand or soil. The amount of required coring is at a minimum immediately after the first few holes are drilled. These holes are known simply as "post holes" in order to distinguish them from holes intended to become producing wells. Exploration of this nature is of course confined to areas possibly underlain with favorable stratigraphic horizons within reach of subsequent drilling operations.

Geologic maps showing structure by contours grow better each year, it seems. We are learning how to correlate the conditions revealed by drilling wells at depths with those which are evident at the surface. No longer do we depend upon the record of lithology and depth formerly made by the driller in the field. Now we demand the core sample obtained by the so-called core bit and core barrel. The sample is given to the geologist for an examination as to its lithologic character, its possible correlation with the cores of adjoining wells either by lithology or microfossil content. The sandstone portions of the core are tested for their possible petroleum content by

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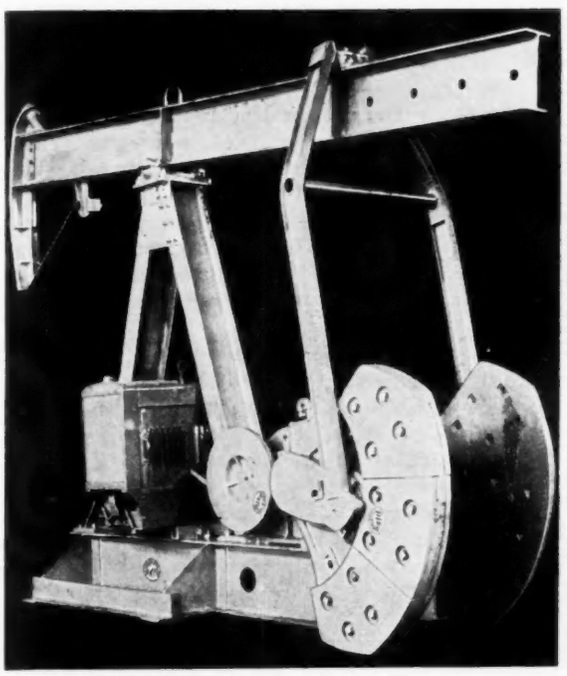

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ether, acetone, or chloroform. Isolated wells are cored for a greater portion of their depth than wells which have close neighbors. Coring is more expensive than ordinary drilling and it is therefore done only so much as the scientific information to be obtained warrants.

Fossils

The present tendency is toward a greater reliance upon miscroscopic fossil determinations for stratigraphic locations of the drill bit. In areal work the megascopic fossil of a size easily described and determined by the naked eye still serves its purpose. Collections of these at the locale of an expqsure are easily made, and numerous specimens are required for an exact determination of age. The possibility of obtaining a sufficiently large collection from a drilling well is remote. Here it is that the microfossil has assumed importance. Although there was a time, not long ago, when these mites of animal life were regarded as having lived racially through too many geologic periods to be of aid in diagnosing the age of a particular stratum or series of strata, now it is known from experience that they are for this purpose reliable in the hands of a competent student of the subject. We are now in the process of making accurate stratigraphic determinations by the aid of the microscope. Contacts between formations in sequence are delineated with care, so that we know where we are, so to speak, with the bottom of the hole during drilling. It has been necessary to return to the surface exposures for their microfossils, in order to establish a correlation between the accepted diagnostic larger fossils and their associated microscopic foraminifera. This work still continues; the picture is far from complete. Recent innovations in recovering the shells from hard shales by explosion with steam in a steel bomb, and also in separating the shells from equally sized grains of sand by flotation in heavy bromine or mercury solutions tends to lessen the cost of these investigations.

The heavy mineral content of formations has played its part in the diagnosis of stratigraphic age. A sample of the formation is pulverized, and the heavy minerals are separated easily by washing. Correlation from well to well, or from place to place is possible. The diagnosis appears to be restricted, however, to points not too widely separated, for the conditions for source and transportation during deposition vary greatly in short distances. The present tendency is to rely less upon heavy minerals and more upon micropaleontology.

Reclassification of strata near a contact or in a transition zone continues. Today particular strata may belong to the uppermost part of a lower horizon, while tomorrow these same strata appear to belong to the lowermost portion of an upper horizon. This is to be expected as micropaleontological studies proceed. Such changes mean little or nothing to the industry at large.

Micropaleontological studies have made it possible and advantageous to construct profiles of geologic sections across drilled areas so as to aid in demanding the minimum necessary coring and to aid in the subsequent study of the cores of later wells drilled on the same structure. These profiles are receiving favor at present, and it seems that their popularity among geologists will increase.

We are now accepting the fact that most producing horizons consist of a series of productive zones, each of which is separated from the others by impervious strata of shale or shaley sandstone, of very finely grained material. Sub-surface maps are drawn for these separate zones, showing the productivity and the location of the wells pertaining to them. Such maps are obviously of aid in the better development of each zone and consequently in the better development of the field at large.

Where wells have depths greater than 4000 feet, any deviation from the vertical becomes appreciable in the matter of mapping. Computed allowances for such a deviation are now made.

Progress in field geology is evident in the papers which appear in the Bulletin of the American Association of Petroleum Geologists. This organization now has 2500 members, of whom probably four-fifths are actively engaged in geological investigations. The efforts of such a large number of specialists are certain to advance our knowledge concerning American resources of petroleum. We should note here that all properly qualified geologists who are interested in the problems of petroleum, irrespective of nationality, are eligible to become members of the American association and receive its Bulletins. The only cost is the annual fee for each membership.

There yet remain large areas in the United States which are stratigraphically favorable and capable of containing structures favorable to the accumulation of oil and gas in commercial quantities. It is to be expected that, as time progresses, the geological problems of locating these deposits will become more difficult. Perhaps some of the deposits now unknown will be discovered by drilling without geological study, as some in the past have been discovered; nevertheless, it is safe to assume that less and less of such "wildcat" drilling will be done in the future, for geology, as an aid to the industry, is increasing daily in popularity among those who would invest in exploratory drilling. We geologists are learning from day to day, and in so far as we are more successful will the confidence of operators increase.

Oil and gas at greater depths will be encountered. Such deposits, even if they occur in well-known types of structure, are a strain on the mind of the geologist. Knowledge of unconformities between strata, and the thickening of otherwise uniformly laid strata present problems which slowly become capable of being solved. The costs of deep holes have now amounted to $300,000 under favorable conditions of drilling and without undue mishaps during drilling. The intense pressures encountered at these depths seem to promise a sufficiently rapid return on the money invested in the holes. So long as this condition prevails, flow of natural production from wells will preclude the possibility of profitable oil mining and treatment of oil shales in this country.

The strain on the ability of the geologist, we say, will become greater as time rolls on. As for the geologist we may quote Dr. Sidney Powers, past president of the American Association of Petroleum Geologists, who stated in his annual report to the association that the "Demand in future exploratory work will be for fewer, but better trained men and women, for specialists, and for those with a thorough knowledge of physics and mechanics in addition to geology." By "mechanics" he undoubtedly meant the mechanics of structural folding, faulting and deposition, also the mechanics of fluid motion through porous media.

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Factors *Involved in* Reducing Lease Evaporation

W. F. CLOUD
Associate Professor Petroleum Engineering
University of Oklahoma

Nature and Causes of Evaporation Losses

LABORATORY tests have demonstrated that the gasoline content of a crude oil while in storage will evaporate from one-half to six-tenths as fast as the same gasoline after it has been distilled from the same crude and then stored under identical conditions of temperature, vapor pressure, surface area, etc.

Since crude oils of high A. P. I. gravity contain more gasoline and lighter ends than do oils of low gravity, it is reasonable to expect that evaporation will be greater and continue at a more rapid rate when such oils are transported or stored.

Lease evaporation occurs in flow tanks, stock tanks, and in treating plants. It is greatest during the period of flush production because much gas is carried in solution with the oil. Also, vapor will escape faster when oil is handled rapidly, or if it is permitted to remain very long in stock tanks before being pumped into the pipe line. High gravity oil will evaporate very rapidly when stored in stock tanks that are not protected from the direct rays of the sun. The application of heat for treating emulsified oils causes gas and lighter ends to come out of solution. Evaporation will occur if the treating is not done in a closed system and the oil cooled before dumping it into a battery of stock tanks that are not vapor-tight.

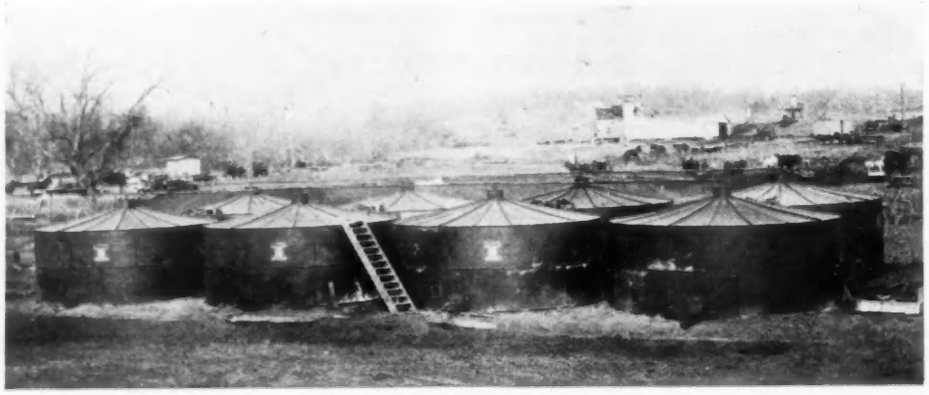
Flow tanks and stock tanks that are filled by the overhead method usually have a high percentage of evaporation loss because the splashing and agitation produced cause rapid circulation of the hydrocarbon vapors. However, filling such tanks through side or bottom connections will not entirely eliminate evaporation of this kind, because gas bubbles are formed which rise to the oil surface then break.

Evaporation losses continue at a much slower rate in large and high storage tanks because there is less bubbling and agitation during filling, and then the oil usually remains undisturbed for a longer period than is the case when stored in stock tanks. Also, it is probable that the additional static head pressure due to the greater height of such tanks may tend to retard the upward movement of gas, as well as reduce convection currents, since the temperature is more nearly uniform in large high tanks. The amount and rate of evaporation in large storage tanks used at pipe line stations are usually small if excessive bubbling and agitation do not occur, as such oil is usually moved before it has remained in storage very long. Also, the volume discharged is often about equal to the volume of input, so the fluid remains at about the same level and the tank does not "breathe" excessively.

In areas where the wind velocity is very high or where extreme changes in daily temperatures exist, evaporation losses are usually high. Dhy atmosphere and hot sunny days are also responsible for high evaporation losses.

Generally speaking, there are four fundamental factors that control the rate and amount of evaporation of crude oil and gasolines: (1) The amount of liquid surface exposed to the air, (2) the temperature of this liquid surface, (3) the amount of unsaturated air that sweeps over the surface, and (4) the extent to which this air becomes saturated with hydrocarbon vapors before it is breathed out of the tank.

The unsaturated air that passes over the surface of the stored liquid has two sources; namely, the wind, and tank breathing during daily changes of temperature. The amount of wind action will depend primarily upon the tightness of the tank roof, and also upon the type, number, and location of the vents and breather valves. The amount of loss sustained by breathing will be controlled by: (1) the pressure at which the pressure-relief valves are set, (2) the amount



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and frequency of changes in the temperature of the vapor space above the liquid, (3) the volume of the vapor space, and (4) the condition of the air that is breathed into the tank.

The extent to which the inhaled air becomes saturated with hydrocarbons depends upon the temperature of the liquid surface, the vapor pressure of the liquid, and the duration of time the air remains in contact with the hydrocarbon vapors.

A survey of the above mentioned factors will indicate that producers should strive to establish the following conditions when gasolines or high grade crude oils are to be stored: (1) Minimize the surface area of the liquid stored by using higher tanks of smaller diameter, when it is practical to do so; (2) maintain a low temperature at the liquid surface; (3) reduce temperature variations in the vapor space; (4) install vapor-tight roofs; (5) use roof material that is capable of withstanding considerable vapor pressure; (6) purchase breather valves that are positive as well as durable; and (7) provide some method whereby the exhaled hydrocarbons can be saved and condensed, or store them temporarily in breather bags or breather tanks.

Determination of Evaporation Losses

The methods which are used for measuring evaporation may be summarized as follows:

(1) Tank gaging to determine the volume of oil both before and after evaporation has occurred. When using this method, temperatures are taken at several depths and corrected to 60° F.

(2) By distillation.[1] Three processes are checked against each other when using this method: (a) The specific gravity formula, (b) by plotting temperature-percentage distilled curves, and (c) by plotting gravity-temperature data.

(3) By directly measuring the volume of vapors that escape, and then analyzing these vapors to determine their percentage of hydrocarbon concentration.

(4) The vapor-pressure method.[2] This method is based upon the relative change in vapor pressure and vapor volume that accompanies a change in liquid volume.

Methods of Reducing Evaporation Losses

The various methods that have been successfully used to reduce evaporation when crude oil or other liquid hydrocarbons are stored are as follows:

1. Painting tanks with light-colored paints.
2. Covering tanks with aluminum foil.
3. Insulating or housing the tanks.
4. Using tanks that have low-pitch roofs.
5. Using vapor-tight tanks under pressure.
6. Spraying tank roofs with water.
7. By installing tanks having water-sealed roofs.
8. By conducting the discharge vapors to a gasoline plant.
9. By installing an equalized vapor-pressure line at connected tank batteries.
10. Storage in high-pressure spherical or spheroidal tanks.
11. Use of breather-roof tanks.
12. Floating-roof tanks.
13. By installing breather-tanks or breather-bags.

Effect of Light-Colored Paints

It is a well-established fact that when tanks are painted with some light color; such as white, gray, or aluminum, the evaporation is less than when red or black paints are used. If the inside of the roof can be painted also, additional reduction in evaporation and corrosion will result. The results obtained by this practice are a consequence of the effects of reflected or absorbed sun rays.

Use of Aluminum Paint or Aluminum Foil

Storage tanks in recent years have been "papered" with aluminum foil, which may vary in thickness from .0015 to .005-inch to eliminate hydrogen sulphide corrosion and to reduce evaporation losses. The foil acts both as an insulator and a reflector of sunlight.

The preliminary data[3] in Table 1 regarding tests of five 80,000-barrel steel roof tanks in Winkler County, Texas, speak well in defense of aluminum foil, as well as for insulated roofs.

TABLE I

Tank No.	How Painted	Vapor space Temp. during a typical 24-hour period			Barrels lost during first 4½ months of test
		Max.	Min.	Change	
1	Not painted.....	127	83	44	400
2	Aluminum paint roof and shell.....	111	82	29	375
3	Aluminum paint on roof and top ring: red shell.	113	84	29	325
4	Aluminum painted shell; insulated roof.....	105	86	16	140
5	Aluminum foil roof; aluminum painted shell...	102	83	22	80

Reduction at Insulated Tanks

Insulating the tank roof or completely housing tanks with wood or metal sheathing will materially reduce evaporation. If the tank is completely housed, care must be exercised to see that such housing forms a dead-air space around it. Any air currents present will cause the covering to act as a sort of ventilating stack. It is probably more practical as well as economical to insulate only the roof, using wood. The insulation will keep the vapor space cooler during the day, and tend to maintain the same tank temperature at night.

The data in Table No. 2 show comparative temperature records on three 250-barrel lease tanks operating under 16

TABLE II

	Red Tank	Aluminum Painted Tank	Housed Tank	Atmospheric Temperature
Maximum temperature, degrees Fahr.....	127	112	101	93
Minimum temperature, degrees Fahr.....	52	44	45	40
Average daily maximum temperature.....	108	92	89	82
Average daily minimum temperature.....	60	57	63	58
Average daily temperature variation in the vapor space, degrees Fahr.....	48	35	26	24
Average temperature of vapor..	84	74.5	76	70
Estimated average daily increase of pressure due to thermal expansion of vapor, lbs. per sq. in.....	1.32	1.09	0.72	

[1]Wiggins, J. H.—"Evaporation Loss of Petroleum in the Mid-Continent Field," U. S. B. M. Bul. No. 200, Feb. 1922.

[2]Chenicek, G. W. and Whitman, W. G.—"Determination of Evaporation Losses," paper read before the Eleventh Annual Meeting of the American Petroleum Institute, Chicago, Nov. 12, 1930. (Method and apparatus described in Industrial and Engineering Chemistry (Anal. Ed.) 2, 28, 1930.)

[3]Gill, Stanley, Rogers, W. F., and McGary, S. U.—"Aluminum Foil Protective Coatings for the Oil Industry," The Oil Weekly, Jan. 31, 1930—p 51.

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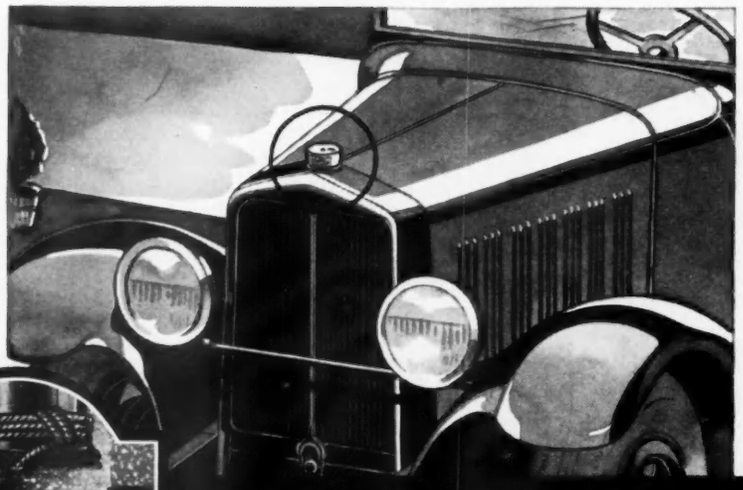

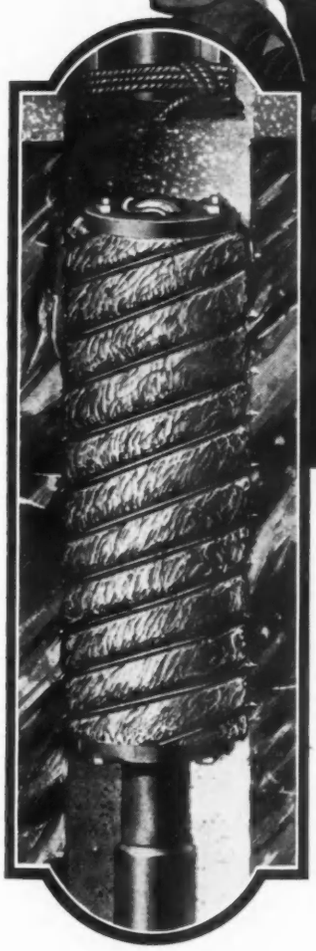

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The Guiberson Spiral Bottom Water Plug, with its steel spirals that bite into the walls of the well, takes a screw-like hold that cannot be broken. Between the spirals is packed oakum, the best oil field packing known. When the collapsed plug takes its everlasting grip, not a drop of water can get by and gas pressure from below cannot budge it. The Guiberson Spiral Bottom Water Plug will not come out until it is drilled out.

ALSO SPIRAL PACKERS

Made on exactly the same principle as the Bottom Water Plug, Guiberson Spiral Tubing and Casing Packers possess exactly the same gripping power and capacity for uninterrupted service. Remember the oakum packed spirals of the Guiberson Plugs and Packers. Therein lies the secret of their remarkable efficiency and service.

"Better Be Safe Than Sorry"

THE GUIBERSON CORP.
Box 1106, Dallas, Texas
California Branch: 1304 Security Title Ins. Bldg. Los Angeles
504 Wright Bldg. Tulsa
First and Locust Sts. Newark, O

GUIBERSON

BETTER BE SAFE GUIBERSON THAN SORRY

ounces pressure, one being painted red and one with aluminum. The third tank was completely closed in wooden housing.

Spraying or Sprinkling Tanks

Revolving or stationary water sprays will materially reduce daily evaporation. However, water may be scarce or be too expensive to warrant its use for this purpose. Frequently flat-topped tanks are constructed to hold several inches of water to serve as an insulator against the heat of the sun. The increased initial cost of such tanks, together with the probable rusting or corrosion and the care required to keep them supplied with water make this method somewhat objectionable. However, it is considered practical at many refineries.

Collecting and Condensing the Vapors

If the companies or operators that store evaporative oils own or operate a gasoline plant, lines may be installed from the tank vents and kept under slight vacuum, in order to collect all vapors as they are breathed out and convert them into gasoline. This installation may or may not be economical, depending upon individual circumstances.

Use of Equalized Vapor Vent Lines

By installing an overhead vapor line across all the tanks in a battery, and connecting each tank in the battery to the line, the vapor pressure in all the tanks may be equalized. The line may be made to extend from the flow or skimming tank, thence straight across the top of each tank in the entire battery. Then, as a tank is being filled or emptied, the pressure or vacuum is relieved by the entire system, and thus no vapors are vented or any air admitted. This method is safe within certain workable limits, however.

High-Pressure Tanks

The greater part of evaporation losses from high gravity crude oils and commercial gasoline is due to breathing losses when such products are stored for a long period. The spherical and spheroidal tanks were designed to meet such conditions. They have two principal advantages, which practically eliminate evaporation and losses incurred while they are being filled: (1) when the tank is full, the volume of the vapor space is exceedingly small; and (2) they are designed to withstand 30 to 50 pounds absolute pressure which eliminates all ordinary breathing losses. While the initial cost of these tanks is high, it is probable that their reduction of evaporation losses will compensate the additional cost within a comparatively short time.

Breather Roofs

The Breather-roof tank was designed to stop thermal breathing losses of large volumes of oils standing in storage, by taking care of volumetric expansion and contraction without permitting the escape of vapor. The roof is constructed so as to flex upward or downward, depending upon whether the vapor within the tank is expanding or contracting. For the larger tanks the vertical movement ranges from about 16 to 24 inches, and thus provides aout 11,000 to 12,000 cubic feet of additional vapor space without permitting breathing losses.

Floating Roofs

This type of roof was designed to eliminate the fire and explosion hazard and to practically reduce breathing and evaporation losses at tanks that must be filled and emptied frequently. The principle is similar to that of a large tub which is free to float on the surface of the contained liquid, thus eliminating the vapor space that exists in ordinary cone-roof tanks. These roofs prevent the air in contact with the oil surface from moving across it; therefore the air in contact with the oil surface soon becomes saturated with vapors from the oil, and the mixture which results should be heavier than the surrounding atmosphere. Then if no air currents are present to disturb this mixture, it should remain as a vapor blanket above the oil or gasoline beneath the roof.

Breather-Bags and Breather-Tanks

Closely-woven cotton fabric "balloons" or breather-bags are occasionally installed between two large tanks in which gasoline or high gravity crude oil is stored, to recover and retain all vapors breathed out of the tanks, as well as to serve as a means of vacuum relief without admitting air into such tanks. These bags provide a flexible vapor container, being attached to the breather lines of the tanks. One bag, capacity about 18,000 cubic feet, will ordinarily accommodate two 80,000-barrel tanks. The fabric is chemically treated to render it durable and impervious to hydrocarbon vapors. An automatic counterweight control maintains a pressure within the balloon at 0.25 to 0.30 inches of water. Each installation is swung in a protective housing in such a manner as to permit the upper half of the bag to collapse into the lower half when it is being deflated.

Evaporation losses when gasoline is being stored in tanks equipped with this type of vent vary from 0.04 to 0.07 per cent per month during the spring and summer months; whereas, under similar conditions conical roof tanks equipped with relief valves may have evaporation losses as high as 0.25 to 0.35 per cent per month.

Steel balloons or breather-tanks, having flexible diaphragm top and bottom, are now available for the same purpose as the flexible fabric types. They are so constructed and erected that both the top and bottom are free to move up or down as vapors enter or are expelled. The upper diaphragh, which contains a pressure relief valve, flexes upward as vapors enter the balloon; and the lower one, which contains a vacuum relief valve, moves upward when the container is subjected to vacuum conditions. While these steel balloons may be made in variable sizes, the practical installation to date seems to be a shallow circular tank approximately 80 feet in diameter and about 9.3 feet high, the capacity of which is 22,000 cubic feet.

Conclusion

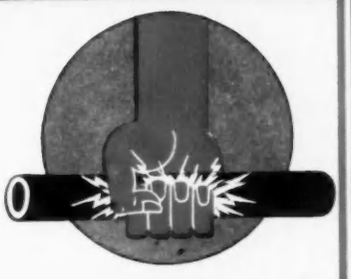
While it may usually be impractical and expensive to try to install tankage and equipment that will entirely eliminate evaporation losses at refineries, tank farms, or on leases; nevertheless, if an average amount of attention is conscientiously devoted to this phase of the petroleum industry, greater profits will be realized.

The principal point of issue lies in the fact that the average producer and refiner does not actually know what monthly or yearly financial loss is sustained from this form of waste, because such losses are often overlooked during periods of great demand, rapid development, and flush production. Not enough careful and systematic testing is demanded to determine the amount of evaporation that actually exists under one type of storage and tankage as compared to another.

Before any one type of tankage is selected and adopted as standard equipment in any locality, such factors as the market price of the product to be stored, its gravity and volatility, and length of time it usually must remain in storage must be carefully considered if financial losses due to evaporation are to be maintained at an economic minimum. Frequently the most economical type of tankage is the one that has the highest initial cost.

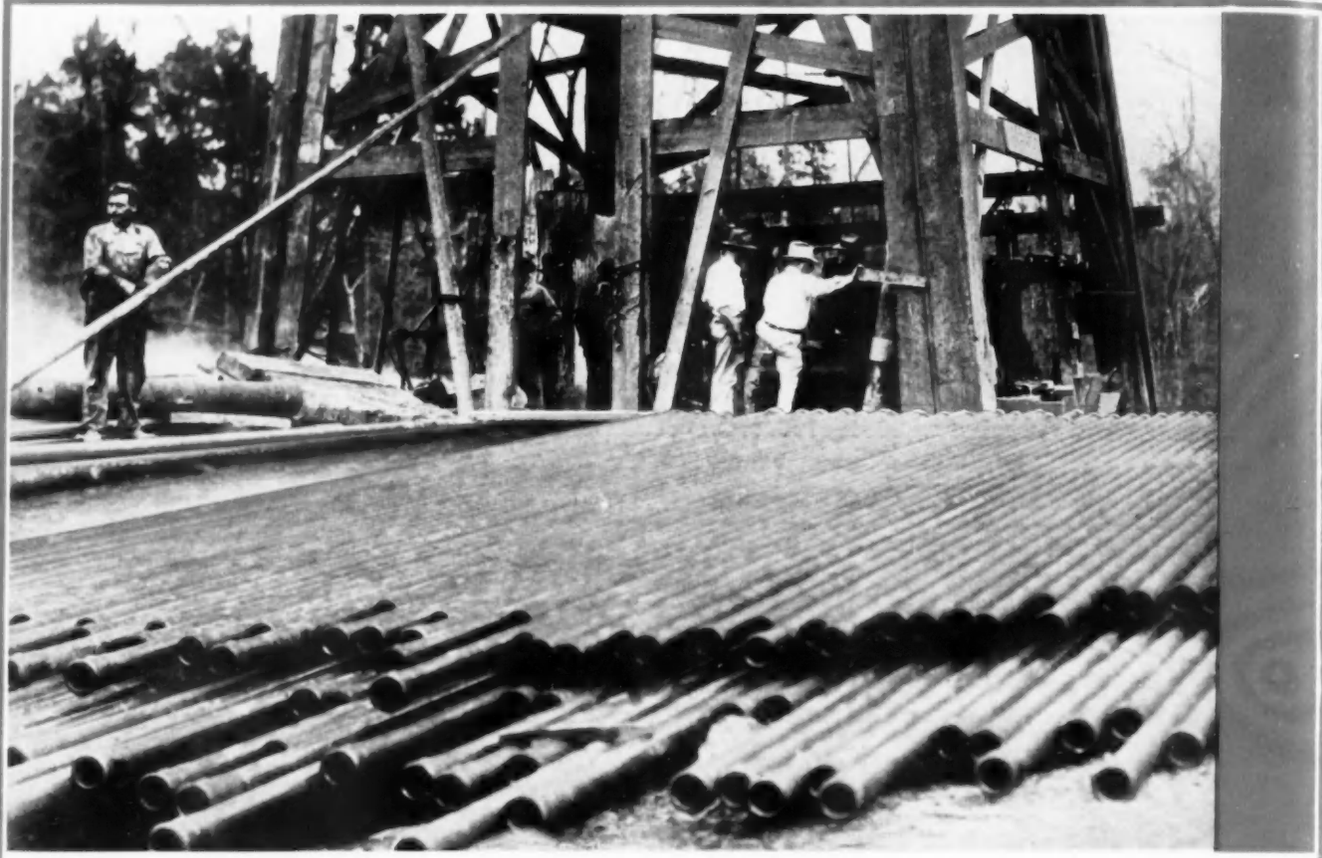
[4]Schmidt, Ludwig—"Reduction of Breathing Losses from Vapor-Tight Lease Tanks," U. S. Bureau of Mines Report of Investigations No. 2834, 1927.

REPUBLIC



ELECTRIC WELD

CASING • TUBING



ELECTRIC WELD TUBING SHOWS MANY ADVANTAGES

THE remarkable record made by Republic Electric Weld Line Pipe and Casing is being maintained by Republic Electric Weld Tubing, which has been enthusiastically received on account of its many valuable features.

The uniform wall thickness not only gives uniformity of strength under the root of the threads, but also accounts for more uniform upsetting of the ends on upset tubing.

Freedom from inside surface defects is an assurance against scoring new cup leathers when replacing them.

Being absolutely scale-free, both inside and outside, is a guarantee against loose scale falling down into the working barrel and ruining the cup leathers.

Its smooth interior surface reduces friction and minimizes turbulence of flow.

Its uniform inside diameter, straightness and lengths of any range are also recognized features.

Republic Electric Weld Tubing is furnished with Standard A.P.I. couplings, all threads checked to approved master gauges, and dimensions conform to approved oil country data.

Republic Tubing is also furnished in Toncan Iron, with Toncan Iron couplings for use where corrosion is a serious factor.

Due to its policy of keeping pace with developments in the oil industry, Republic Steel Corporation is able to furnish the smaller sizes of tubing for gas lifts or taper strings, in high tensile steel, made by the Republic Electric Weld Process, and in Toncan Iron and bessemer steel, by the hot butt weld process, in both upset ends and plain ends, dependent upon the sizes.

★ ★ ★

REPUBLIC STEEL CORPORATION

GENERAL OFFICES YOUNGSTOWN, OHIO

REPUBLIC

ELECTRIC WELD **CASING · TUBING**

Fluid-Piston Type Slush Pump for Handling Drilling Muds

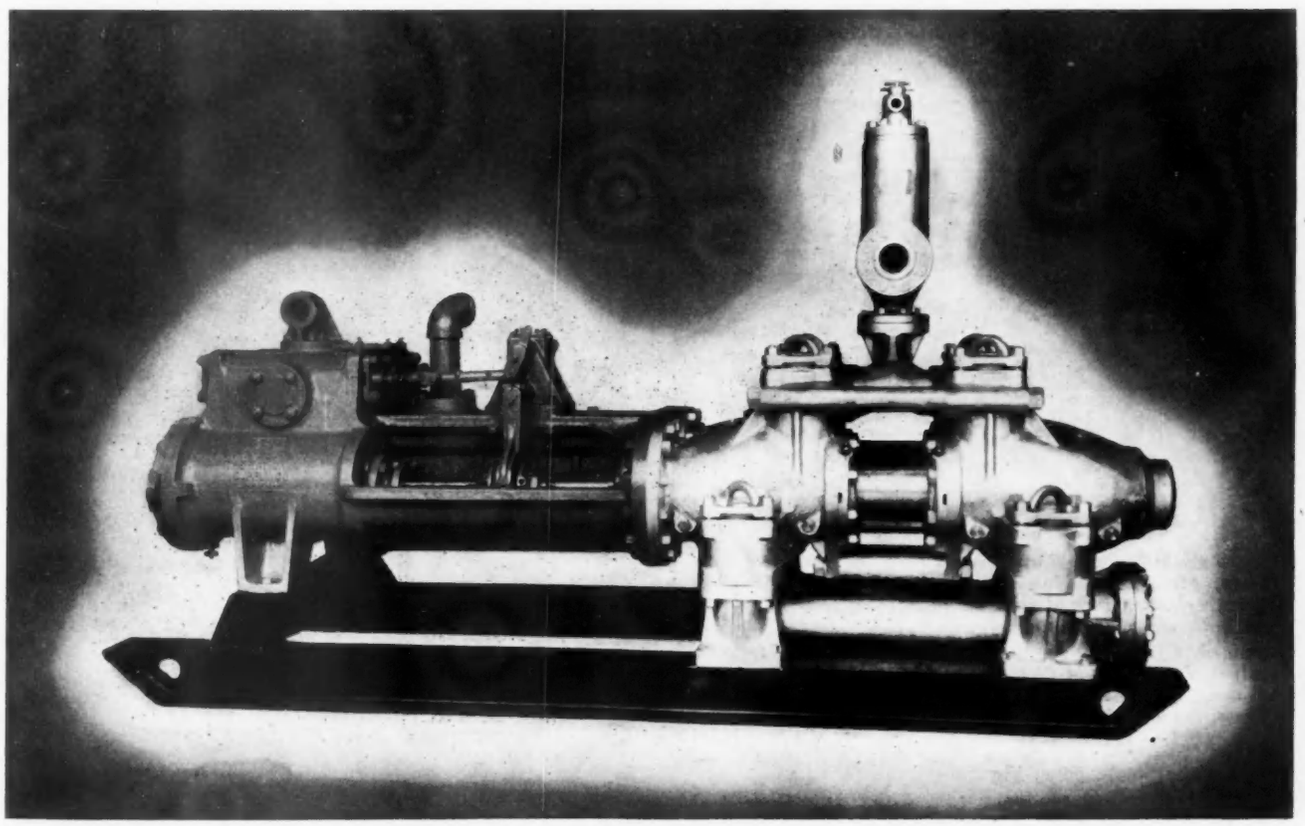
J. A. TENNANT

Consulting Engineer, Houston, Texas

THE operation of delivering mud at the necessary pressures required by rotary drilling equipment has constituted a heavy burden on the patience and pocketbook of the producer. The circulated mud fluid becomes quickly laden with sand and other abrasive cuttings as the well progresses, and wear on pump pistons, liners, rods, and packings becomes excessive. Much time is lost in the replacement of worn parts, and pump efficiency decreases rapidly as wear on moving parts takes place. For these reasons operators have almost universally adopted the practice of installing two mud pumps on every drilling well. It is significant that every other item of rotary drilling equipment has been perfected to the point where duplication is considered unnecessary.

It appeared obvious that some radical departure must be had from the conventional design of mud pumps if more satisfactory and economical service was to be provided, even at present well depths and consequent mud pressures. As deeper horizons are reached, higher mud pressures and greatly improved pump reliability become essential requirements. It was with these considerations in mind that Chas. D. Stephens began several years ago his series of experiments which initiated the present development of the "Fluid-Piston" pump. Intensive experimental and design work in shop, test pit and field has been carried on in recent months under the direction of J. S. Abercrombie and the writer, and an announcement by the Abercrombie Pump Company, Houston, Texas, of the pump's completion and market availability recently appeared in the trade journals.

In the "Fluid-Piston" pump the mud being handled does not touch the reciprocating members of the pump—consequently, abrasion on these parts is eliminated. No pump liner is used. The advantages of the plunger pump are for the first time made available for slush pump service. Plungers and rods are packed against clear water only. Internal pump friction of moving parts has been made extremely small. There is no fluid slippage—the volume discharged per stroke remaining constant at new pump value throughout the operation of the pump. Valve seats are quickly replaced without the use of a seat puller. The



Direct Steam-Driven "Fluid-Piston" Slush Pump, Size 14½x7¼x18

pump is built of cast chrome nickel steel of seectionalized construction, and to extremely precise limits, affording complete interchangeability of parts.

The "Fluid-Piston" itself is the actuating member of the pump. It consists in essence of a cylindrical rubber sleeve filled with clear water and fastened at each end to the pump barrel or cylinder. It is caused to expand and contract by the alternate entrance and withdrawal of the pump plunger through a suitable stuffing box. As the "Fluid-Piston" contracts, mud enters the pump cylinder through the suction valve. This action corresponds to the suction stroke in a conventional pump. As the "Fluid-Piston" expands, the mud in the cylinder is forced out through the discharge valve. This action corresponds to the discharge stroke in a conventional pump.

The action of the "Fluid-Piston" pump is graphically described in Figures 1 to 3, which illustrate in simplified detail the principal parts of the pump and their functions throughout one complete stroke.

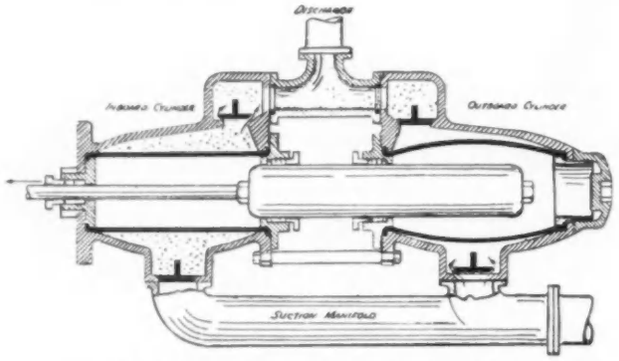


FIGURE 1—BEGINNING OF STROKE

Inboard Cylinder: Suction valve closed, discharge valve just opening, Fluid-Piston beginning discharge stroke. Pressures equal on both sides of rubber sleeve.

Outboard Cylinder: Suction valve just opening, Discharge valve closed, Fluid-Piston beginning suction stroke. Pressures equal on both sides of rubber sleeve.

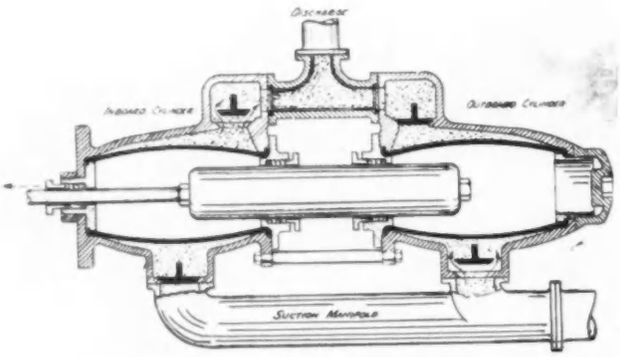


FIGURE 2—MIDDLE OF STROKE

Inboard Cylinder: Suction valve closed, discharge valve wide open, Fluid-Piston in mid-stroke position, mud flowing from cylinder into discharge manifold. Pressures equal on both sides of rubber sleeve.

Outboard Cylinder: Suction valve wide open, Discharge valve closed, Fluid-Piston in mid-stroke position, mud flowing from suction manifold into pump cylinder. Pressures equal on both sides of rubber sleeve.

The rubber seal-sleeve, Figure 4, itself performs no work. It is subject to no tendency to pull or tear apart since, at any point in the stroke, fluid pressures are the same inside and outside the sleeve. It acts merely as a separating

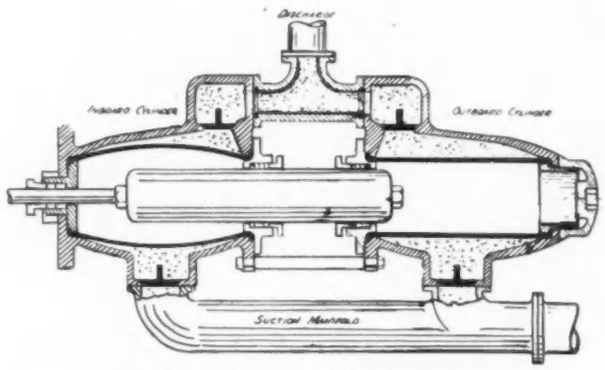


FIGURE 3—END OF STROKE

Inboard Cylinder: Both valves closed, Fluid-Piston at end of discharge stroke, full displacement of mud has moved from cylinder into discharge manifold. Pressures equal on both sides of rubber sleeve.

Outboard Cylinder: Both valves closed, Fluid-Piston at end of suction stroke, full displacement of mud has moved from suction manifold into pump cylinder. Pressures equal on both sides of rubber sleeve.

membrane between abrasive-laden mud in the pump barrel and the clear water in which the plunger reciprocates. It is built of the best high-tensile gum stock obtainable—no other known material resists abrasion as well. The amount of flexure at each stroke is negligibly small and the fatigue limit is never remotely approached. Plugs are provided in the cylinder heads for easy filling or draining.

Pump plungers are built of stainless steel or other non-rusting material, and are accurately finished and ground. Smaller diameter plungers for higher pressures are readily interchanged, and their use involves no change in either

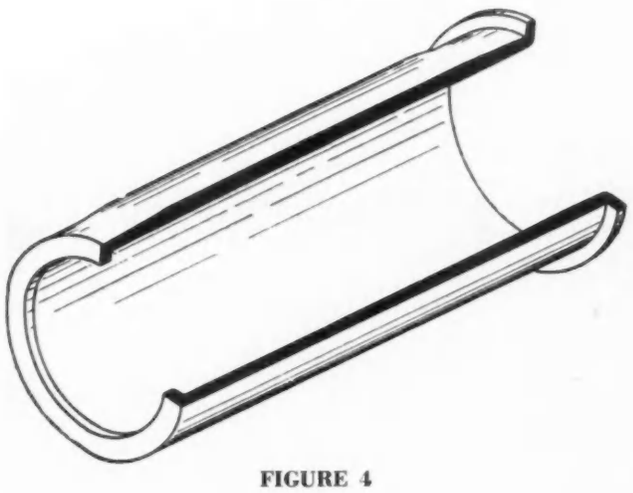


FIGURE 4

the rubber sleeves or the cylinder heads, which remain standard for the various bores and strokes to which the "Fluid-Piston" pump is adaptable.

"Fluid-Piston" pump cylinders are separately cast from a special chrome nickel steel, and carefully heat treated before machining. The use of steel insures lightness and extreme strength. The use of separate cylinders insures economical replacement cost should this ever become necessary. All machine work and all drilling and tapering operations are done to jigs and gauges, insuring absolute interchangeability. The design of the cylinders themselves and of the wide-faced interconnecting parts insures complete

rigidity, affording at the same time easy assembly and disassembly.

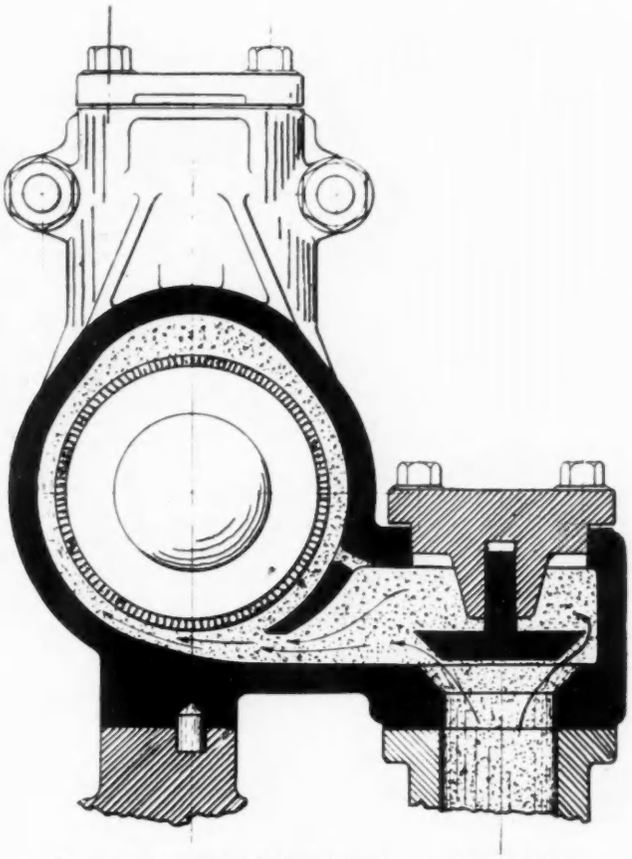
The patented design of the suction opening from the suction valve chamber into the cylinder proper is the result of much experiment in shop and field. Mud enters the suction valve chamber from a suction manifold where passages are exceptionally large, and where great care has been taken in streamline design to avoid sharp turns and achieve low fluid velocities. Passing through the suction valve into the suction valve chamber, the mud enters the pump cylinder in a direction tangential to the bottom and along practically its entire length. The cylinder bottom is therefore swept clean at each stroke of any heavy particles such as gravel or lumps of gumbo that might tend to settle there. A small opening directly into the cylinder from the top of the suction valve chamber prevents gas binding.

The pump is of streamline design throughout. There are no sharp or abrupt changes of flow at any point. Passages are large and velocities are kept low throughout the pumping cycle. The pump has inherently a high suction lift and quick priming ability. It has been designed with the view of handling heavily gas-impregnated mud without gas binding or undue loss of capacity.

Since there can be no slippage of mud fluid past the "Fluid-Piston," pump efficiency remains constant. The volume of mud discharged at each stroke is equal to the displacement of the plunger, and remains at this amount irrespective of the length of operation, the abrasive quality of the mud itself, or the quantity of water inside the seal sleeve.

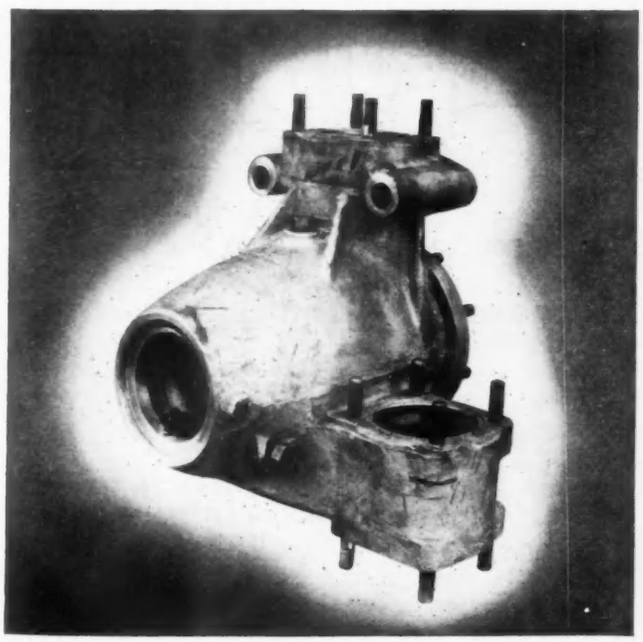
Since the plungers and rods are packed against clear water only, a simple pressure-tight form of packing can be used. This presents a very small area of contact with the moving parts, and hence internal pump friction becomes a negligible quantity. There are no packing adjustments. A water seal is provided. Since no mud or grit comes in contact with plungers, rods, or packing, wear on packing has been practically eliminated.

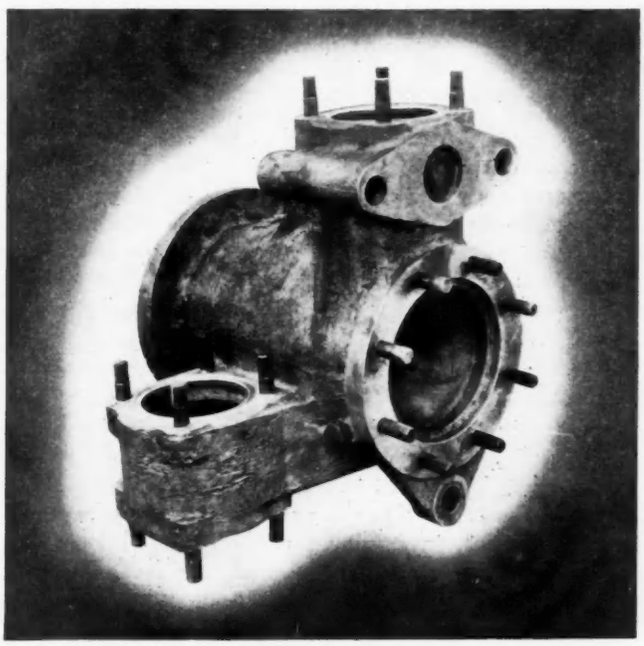
Valve and valve seat construction represent departures from conventional design. The valve seat, which is readily removable by hand, is machined with two steps on the bottom side. When the seat is in place in the valve chamber, the lower step bears on a hydraulic gasket fully enclosed. This gasket used alone has been proven in the field to be amply competent to prevent the mud fluid undercutting the seat. As an additional factor of safety, however, a molded rubber seal-ring has been placed under the upper step in the valve seat. This construction eliminates the posibility of undercutting.



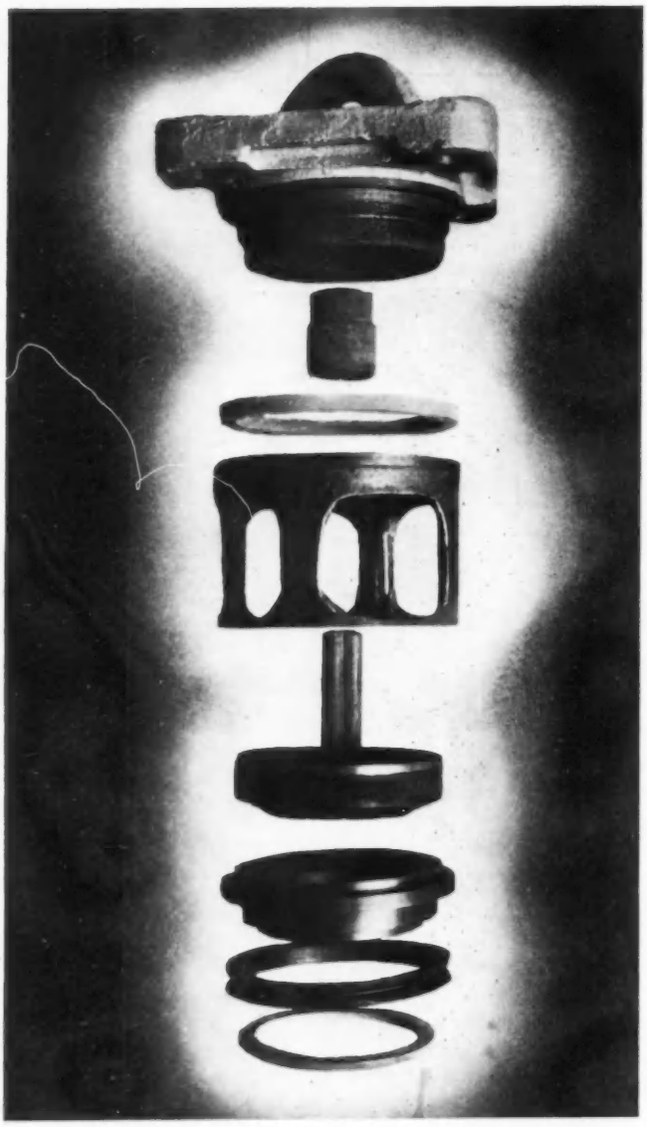
Cross-section of cylinder showing suction opening

The valve seat is held down in place against the gasket





Pump cylinders are separately cast from a special chrome nickel steel and heat treated before machining



Valve and Valve Seat Construction—a departure from conventional design

and seal-ring by the valve cage. A second hydraulic gasket is then placed on the top flange of the cage and the valve pot cover set in place. The four valve pot cover nuts are then drawn down to compress and expand the upper gasket directly, and to transmit the same compression load through the cage to the valve seat gasket and seal-ring. Worn valve seats are readily replaced by removing the valve pot cover, lifting out the cage and valve seat by hand, and dropping the new valve seat into place. Valve seats are of special steel case hardened and oil quenched.

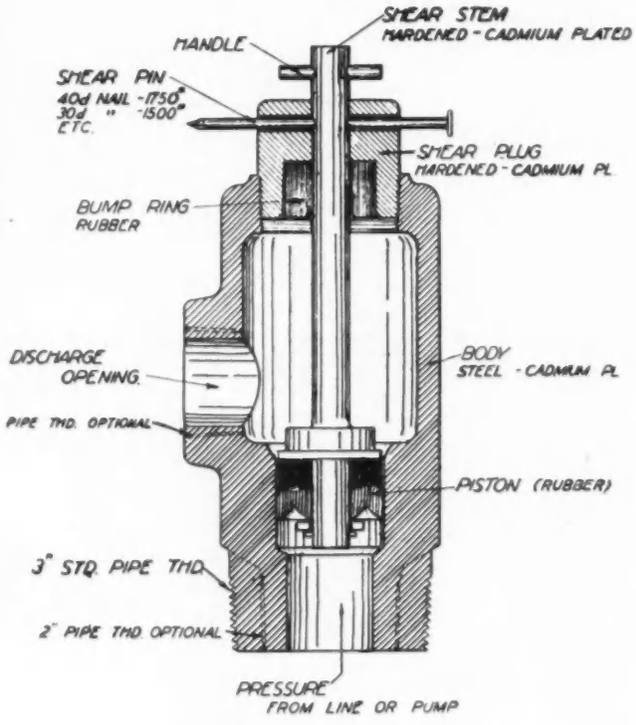
The oversize valves are built of one piece of special steel, case hardened, and with rubber insert vulcanized into place in a recess in the valve body. Valve and insert are renewed as one unit. It will be noted that no lower valve stem is used. Consequently, the valve seat opening is not obstructed by a guide bar, and full valve opening is obtained. Dependence is not placed solely on the upper valve stem for guidance, however, since the main body of the valve itself is guided by the cage bars throughout the valve stroke.

It will be noted that no valve springs are used. This fact, together with the extreme lightness of the one-piece valve itself, insures instant opening of the suction valve at the beginning of the pump's suction stroke, a full charge of mud into the cylinder, and removes the spring obstruction to suction lift. The valve is of the high-lift type and is cushioned at the top of its stroke by the rubber bushing inserted in the valve pot cover. This bushing also acts as a guide to the fluted valve stem and being wet during the operation of the pump, affords almost frictionless valve stem guidance.

The valve asembly is extremely simple, all parts instantly accessible upon removing the cover, and no seat puller is required or furnished with the pump. The square valve pot covers are of cast chrome nickel steel and are light enough to be easily handled by one hand. A convenient handle is placed on top and, in addition, finger recesses for easy handling are placed on all four sides. Four studs are used for each cover.

The air chamber is of cast steel and of generous size. It may be rotated to any desired position. A strainer is provided which is of unusually generous proportions, and which may be removed for cleaning without disturbing the piping connections.

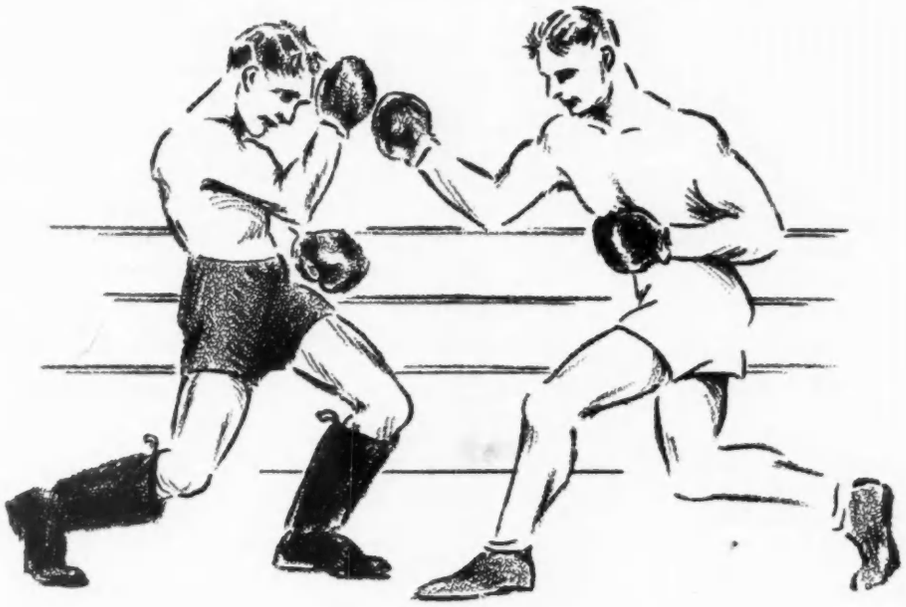
A shear relief valve is incorporated into the air chamber top flange on all power pumps and supplied, when desired, on steam pumps as well. This acts as a positive protection to the pump against high line pressures and is, in addition, so located as to protect the pump in the case of clogged



Shear Relief Valve

strainer. It is easily reset by hand to release at any desired pressure. Its action is not affected by rust or corrosion, since all interior parts are cadmium plated.

The "Fluid-Piston" pump will be built in both steam and power driven types, as well as for replacement of fluid ends on present pumps, and in sizes at present in use for this class of equipment. Each pump is built and offered for working pressures up to 2500 pounds per square inch.



Even JACK DEMPSEY in his heyday would GET LICKED if he wore RUBBER BOOTS in the RING

PRIZE FIGHTERS know what speed means. They train for speed. They dress for speed. Even in his heydey, Jack Dempsey would probably have been knocked out if he had had to go into the ring in heavy rubber boots.

THE BATTLE OF THE CENTURY. The crowds are in breathless suspense. The preliminary fights are over. Oil companies are in their corners. The spotlight is on them and them only. The gong for the opening round is about to sound. The winner is the company that goes into the fight without an ounce of excess overhead. The company that is trained to move swiftly holds an important advantage. In this battle of the century, more and more companies are going to realize that in order to fight the enemy that packs in one fist economic disturbance and in the other fierce competitive spirit, LIGHTNING SPEED must be used.

Companies that are trained to fighting trim are not handicapping their drillers and operators of properties with excess equipment. They are passing power worries on to power companies. It means quick moving from lease to lease or field to field. It means quick change from drilling to pumping. It means flexibility. It means less labor, less depreciation. It means more economy, more safety for the men.

GULF STATES
UTILITIES COMPANY

General Offices

BEAUMONT, TEXAS **LAKE CHARLES, LA.**

WORLD PETROLEUM IN REVIEW

Mexico's Oil Exports Decrease in 1931

Mexico City.—Following are official statistics showing Mexican exports of petroleum and petroleum products in 1931 as compared with 1930.

Item	1931 Exports (Barrels)	1930 Exports (Barrels)
Crude Petroleum ...	10,257,575	12,713,688
Refined Products ...	5,698,199	5,989,086
Fuel and Gas Oils..	6,547,745	8,138,077

The figures for 1931 represent shipments out of Mexico by 19 companies. The United States took 46 per cent of these exports, receiving chiefly crude and fuel oils. The next best foreign customer was the Bahamas, which took 22 per cent of the 1931 exports, although they were largely transshipped there for other destinations. Germany had third place with purchase of seven per cent of the total, and Argentina followed with six per cent.

The 1931 crude oil exports included 10,005,522 barrels of heavy oil and 252,053 barrels light oil. The petroleum products included the following: 1,877,087 barrels gasoline, 74,524 barrels crude kerosene, 1,252,458 barrels refined kerosene, 346,120 barrels lubricants, 6,547,745 barrels fuel oil, 1,110,424 barrels gas oil, and 1,037,586 barrels asphalt.

Although the republic exported 1,877,086 barrels of gasoline in 1931, all from El Aguila (Royal Dutch-Shell) refineries, the country also imported 471,788 barrels, chiefly from the United States, and with small shipments occasionally coming from Venezuela. Imported American gasoline comes for the most part into west coast ports, especially through Manzanillo, which received 138,996 barrels in 1931. Border cities also show fairly large imports. Considerable lubricating oils are brought in, around 20 American companies supplying them. Mexican crude oil being largely asphaltic, there is a good Mexican demand for paraffin base lubricants.

Czechoslovakian Trains To Depend on Vlkos Gas

Prague, Czechoslovakia.—The new natural gas field in the Vlkos district will supply all requirements of that product by railways of the country, and in consequence the Prague and Pilsen gas plants will be closed down, although the modern Prerov plant will be retained for emergency purposes. In 1931 the three railway plants had output of 754,160 cubic meters, including 358,430 supplied by the Prague plant. Many of the Czechoslovakian railway coaches still use gas equipment, although much progress has been made in equipping the coaches with electric lights.

Shell Subsidiaries Get German Refinery Interest

Berlin, Germany.—German subsidiaries of the Shell interests and an American company are reported to have acquired 300 of the 1000 mining shares of the Deurag refinery at Misburg, recently placed in operation and supplying the German postal omnibus service with gasoline from domestic oil. Majority stock is owned by Elwerath, associated with Preussag and the Wintershall companies in this enterprise.

Drilling of German Area Not Likely This Summer

Berlin, Germany.—Drilling for oil in northwestern Schleswig-Holstein is not likely to be started this summer, it is reported. The area has been investigated with geophysical instruments.

Mexican Refineries Have 22,308,649-Barrel Output

Mexico City.—The five active refineries in Mexico during 1931 produced 22,308,649 barrels of petroleum products. A large part of the production was by subsidiaries of the Royal Dutch-Shell interests: Cia Mexicana de Petroleo El Aguila and La Corona, which operate four of the mentioned six refineries, including one recently opened at Mexico City by Aguila.

The latter concern has a modern refinery at Minatitlan, and it and La Corona operate one refinery each at Tampico, that of Aguila being much larger. The other two refineries, both at Tampico, belong to Mexican subsidiaries of American companies.

Soviet Production Up For First Quarter

Moscow.—Production of crude petroleum in the Soviet Union during the first quarter of 1932 amounted to 39,179,000 barrels, an increase of 10 per cent over the corresponding period for 1931, according to a preliminary report. The Baku fields furnished 22,657,776 barrels of the above total.

Canadian Act Conducive To Prospecting for Oil

Vancouver, British Columbia, Canada.—Under an amendment to the petroleum and natural gas act, anyone in British Columbia has the chance to prospect for oil in the province. Prospectors will pay 50 cents an acre, and will have 15 months in which to place machinery on the ground and begin operations. Half the fees will be remitted if oil is found. The new regulation opens vast potential oil and gas resources for development.

There is some opposition to further legislation which is claimed to be conducive to a rich man's monopoly, the law authorizing sale of oil and gas land at $20 an acre and leasing of rights to oil and gas without granting possession of the land at $15 per acre.

Cuban Prospecting Cost Reduced by Government

Habana, Cuba.—On receipt of petitions for exceptionally large prospecting conceessions, the Cuban government has agreed to reduce amount of deposits required for such concessions to the equivalent of necessary official expenditures.

Mexican Crude Output Declines in 1931

Mexico City.—Crude oil production in Mexico during 1931 amounted to 33,038,565 barrels, a decline of 16 per cent from the amount of the previous year. The 1931 output was from 785 wells, and included 14,295,868 barrels of heavy oil and 18,742,697 barrels of light. Seventy-three companies participated in the production.

The Tampico district continued in the lead as a producing area, yielding all the above mentioned heavy oil, while Tuxpam followed with 10,445,092 barrels.

Prussian Production in March 123,779 Barrels

Hannover, Germany.—Prussian production of crude petroleum during March, 1932, amounted to 123,779 barrels. The total comprised output of different fields as follows:

	Barrels
Haenigsen-Obershagen-Nienhagen	55,957
Wietze-Steinfoerde	34,072
Eddesse-Berkhoepen-Oberg-Oelheim	33,750
Total	123,779

CALIFORNIA FIELDS

Speculate on Limits of Northwest Flank of Middle Dome at Kettleman Hills. Elwood Well Below Standard.

BRAD MILLS, *Staff Representative, Los Angeles, California*

Well Showings Condemn Middle Dome Edge Leases

Coalinga, Calif.—Developments of the past week on flank leases on the North Dome at Kettleman Hills have helped to establish the probable producing limits of the field, and it is now obvious that edge leases on the side of the structure are of doubtful value.

North American Oil Consolidated is abandoning Blauvelt 1, extreme edge test on the North Dome, at 9500 feet, after suspending operations for several months. This well established two casing records and was otherwise an interesting test. The 13⅜-inch string cemented at 6763 feet set a record which was widely discussed at the time, while the 8⅝-inch string cemented at 8485 feet was also an achievement of the past year. Abandonment of the well marks the end of a very expensive effort to develop an edge lease.

North American Oil Consolidated has temporarily shut down Elsinore 1, flank test on the North Dome which is much better located than Blauvelt 1, but which seems to be dangerously near the edge of the field. Work will be resumed soon, and the well will be plugged back to test higher showings. This test was drilled to 9578 feet, but produced mostly salt water from the lower formations. On a production test above 9000 feet, the flow of about 2000 barrels was nearly one-half oil. It is believed that commercial production is possible from the best streaks of oil sand cored between 8365 feet and 9000 feet. Elsinore 1 is located a short distance outside of the limit recognized by Kettleman North Dome Association. A satisfactory completion, however, will allow the lease to fall in the proven class and to participate in the unit plan of earnings.

Failure and near failure of edge wells on the side slopes of the North Dome leads to speculation as to the limits on the northwest flank, where efforts are being made to extend the field a long distance outside of the recognized maximum. It is known that the structure slopes more gently on the ends than along the side, but the end may be almost as sudden when it is found. Success of wells on the northwest plunge caused the still greater efforts for an extension.

North Kettleman Oil and Gas Company found the brown shale at 6668 feet in Lillis-Welch 1, a flank test on the extreme northwest slope of the North Dome, and cemented a string of 11¾-inch casing at 6710 feet. The brown shale was picked up within a few feet of the calculated depth. This should place the Temblor above 8300 feet.

Completion a week ago of Superior Oil Company's Huffman 4 with an initial flow of 4400 barrels of 36.9 gravity oil from 8600 feet reduced the average initial of the four wells finished on this lease, but the latest addition was hardly expected to make the showing the first completions recorded. Mechanical trouble delayed completion of Huffman 4 and may have affected the flow, but this has not been definitely established.

Standard Oil Company is trying to pull the flow string in No. 6-29V, Middle Dome well which recently flowed oil and a good percentage of water on the second production test of the intermediate Temblor at 8385 feet, and will locate the water which spoiled the more recent attempt at completion. The tubing, or small flow string, was bridged in three or four places.

Have Trouble Controlling North Bellridge Pressure

Taft, Calif.—High pressure in Belridge Oil Company's No. 64-27, North Belridge completion, has prevented killing the well and it is still flowing a large amount of light oil and gas from a new producing formation which appears to have almost unlimited possibilities. Pumps were rigged and an effort made to kill the well, but the pressure was too high to overcome under the ordinary procedure. The tubing pressure has increased to 2000 pounds, while the casing pressure has averaged 3100 pounds. Latest production figures show a flow of 2050 barrels of 50.3 gravity oil and 78,000,000 cubic feet of wet gas.

The umpire agreed to give the company a potential of 3000 barrels as a reward for shutting in the well. This was agreeable, but the present equipment is inadequate for stopping the flow. During the testing period, a maximum flow of 3000 barrels was recorded, but the average production was less. It is believed that a different trap arrangement might increase production materially. The light oil and the high flow of wet gas indicate a better yield of light oil under more favorable circumstances.

Geologists are still undecided as to the formation in the bottom of this important completion. It is either the lower part of the Temblor or a shaly formation immediately below. In either event, the completion was one of the most important developments of the year. Top of the Temblor formation is found below 4900 feet, and such a thickness is hardly to be expected, although there is a possibility that the well was completed in the extreme lower portion of the zone.

Santa Rosa Island Test Down 600 Feet and Coring

Santa Barbara, Calif.—Standard Oil Company is coring cautiously at 600 feet in Santa Rosa 1, wildcat test on the Santa Rosa Island and the first well ever drilled in the area. The formation shows a blue sandy shale, but it is too early to make definite correlations with wells drilled on the mainland. Standard Oil Company has the entire island leased for oil and gas, and the development is the extreme opposite from the townlot activity common in the Los Angeles basin.

Resume Production Search In Puente Hills Area

Los Angeles.—Another effort to develop production in the Puente Hills will be made by the H. W. Bailey interests, which have acquired the holdings of Vega Oil Company on Section 14-2-10. An unofficially abandoned well on the lease will be deepened from 2550 feet to test a lower zone which has yielded some showings. This well was pumped from 2500 feet and produced around 10 barrels of heavy oil per day. Several wells have been drilled in the Puente Hills, but only a limited amount of oil has been found. The more recent deposits feather out as the Los Angeles basin is left, and the chances of commercial production are limited. There is evidences of volcanic action in

some sections, but the shallower formations are not affected so much. The small amount of oil found in a few districts has been of low gravity, and seems to have come from well weathered formations.

Elwood Test Increases Flow To 800 Barrels Daily

Santa Barbara, Calif.—After completing Permit 88-8 on the compressor as a 500-barrel producer, Barnsdall Oil Company and Rio Grande Oil Company allowed this latest Elwood completion to flow naturally with good results. The flow increased to 800 barrels through two beans. This production was in sharp contrast to some of the potentials established during the early periods of tideland development. The most recent completion is an ocean test and was completed in the Vaqueros zone at 3502 feet.

Tideland development was all but stopped a year ago, but some drilling is expected outside the mean high tide line. Nearly one-half of the field lies under the ocean, but there is little likelihood of development of the extreme outward ends of the state permits. The Sespe zone has been found productive, but the one completion in this formation is standing shut in.

Resume Operations in Deep Well at Midway Before July

Taft, Calif.—Standard Oil Company has definitely decided to resume operations on Mascot 1, deep test in the Midway field which held the world depth record for some time. The lease extension expires July 1, and the company is now placing roads and equipment in order after the long suspension. Mascot 1 was drilled to 9629 feet to establish a depth record more than two years ago. The well was shut down in April, 1930, and was to have become active again on July 1, 1931. A year's extension was gained, however, and work was postponed a full year. The company did not ask for another extension. Streaks of sand below 9000 feet showed light cuts in acetone, and it is known that some of the cores taken from near bottom showed fair cuts. There is a possibility that more hole will be made before a production test is attempted. Running of the 5¾-inch casing to 9302 feet was an outstanding achievement of 1930. The Temblor formation, which may have been reached, is found so deep here that only a good completion would justify extensive drilling in this part of the Midway field.

San Miguelito Well Killed To Locate Water Trouble

Ventura, Calif.—The varying percentage of water produced by Continental Oil Company's Grubb 1, discovery well in the San Miguelito field, caused the company to kill the producer, with the view of locating the origin of the water. This well was originally completed at 6750 feet to open a new field about midway between Rincon and Ventura Avenue. Initial production was only 600 barrels, but commercial production of any size at this point was important. Opinions differ as to the importance of the field, as well as to its connection with Ventura Avenue, but it is generally conceded that the structure represents a separate field. Chanslor-Canfield Midway Oil Company first discovered oil in the new field, but the well fell short of commercial importance. This test was drilled to 10,030 feet and was for a time the deepest well in the world. It was plugged back to around 8000 feet and produced on the compressor from a portion of the zone which was first tested around 7500 feet.

California Field Developments

Completions

Company, Well and Location—	Initial Production Bbls.	Depth
DOMINGUEZ—		
Union Oil Co., Hellman 18	800	4873
KETTLEMAN HILLS—		
Superior Oil Co., Huffman 4	4000	8600
MT. POSO—		
Gulf Verde Oil Co.'s No. 4, 19-27-28	*	2640
NORTH BELRIDGE—		
Belridge Oil Co., No. 64-27	2000	8060
SEMITROPIC—		
Fullerton Oil Co.'s Core Hole G-1, 1-27-22	*	2600

New Operations

FRUITVALE—General Pet. Corp., Hensley 1, 22-29-27. R. Whiston, Whiston 1, 23-29-27. Petrol Producing Corp., Bloemer 1, 21-29-27.

NEWHALL — Spencer and Brubaker No. 1-A, 8-3-16.

Wildcat Drilling Report

(Wells shut down not included)

NORTHERN CALIFORNIA

KERN COUNTY

BLACKWELL'S CORNER — F. Fowler's Lincoln 1, 15-26-19, fsh for bit 2385 ft.

BUTTONWILLOW — Milham Exploration Co.'s S. P. 32-7, 7-28-23, will deepen from 2355 ft, showed water on test; No. 43-7, 7-28-23, rig; S. P. 21-17, 17-28-23, rig completed. Wilshire Oil Co.'s Salisbury 1, 7-29-24, plugged to 3500 ft, perforating to test upper showings, td 6990 ft.

DEVIL'S DEN—C. B. Gauthier's No. 1, 24-25-18, dr shale 900 ft. Thomas Hannah's No. 1, 25-25-18, dr shale 3350 ft.

McKITTRICK—T. H. Purman's No. 1, 22-29-21, dr broken down shale 4126 ft. Welport Oil Co.'s No. 2, 19-29-21, fsh 235 ft; No. 8, 26-29-21, sr 1300 ft, will cmt string of cas to test.

SHALE HILLS—Rio Grande Oil Co.'s Utting 1, 7-27-19, dr shale 2200 ft.

WHEELER RIDGE—Barnsdall's K. C. L. 1, 15-11-20, sd 7126 ft.

SANTA BARBARA COUNTY

CARPENTERIA — Texas' Community 3-1, 33-4-26, dr shale 3118 ft.

COAL OIL POINT—Bolsa Chica Oil Corp.'s Permit 191-1, redrilled old hole to 1050 ft after plugging back to 500 ft. Equity Oil and Royalty Co.'s No. 1, co 2110 ft, may deepen.

GOLETA—General Pet.'s More 1, 21-4-28, redrilling 4115 ft.

LOS ALAMOS—Barnsdall's Careaga 1, 31-8-33, dr shale 4900 ft.

SANTA MARIA—Western Gulf's Bradley 1, 5-9-33, dr shale 9800 ft.

SANTA ROSA ISLAND—Standard's No. 1, dr hard sand 500 ft, this is first well ever drilled on the island.

VENTURA COUNTY

CONEJO—American Oil Co.'s Powell 1, 33-2-20, co 1700 ft.

HOPPER CANYON—Lankershim 2B, 13-4-19, dr shale and oil sand 2765 ft.

PIRU—Torrey-Ventura Oil Co.'s No. 1, 32-4-18, dr oil sand 3500 ft.

RINCON—Woodrow Pet. Corp.'s Woodrow 1, 4-13-24, dr shale 2820 ft.

SANTA PAULA — E. M. Lesperance's Boosey 1, 31-4-20, rig.

SESPE—H. A. Ivers' Star 7, 1-4-20, dr 100 ft, sp June 14. Merchants Pet. Co.'s Cochran 6, 1-4-20, grading roads to lcn.

SULPHUR MOUNTAIN—Wilshire Annex Oil Co.'s Thompson 1, 20-4-21, doing geophysical work to determine lcn.

TIMBER CANYON—Superior's West 3, 13-4-21, lcn.

MISCELLANEOUS

KINGS COUNTY—Kettleman Reef Ridge Oil Co.'s Seymour 1, 10-23-16, co 1150 ft, will cmt 10¾ inch cas at 855 ft. Mid-California Oil Co.'s No. 1, 11-23-16, lcn. Eagle Oil and Gas Co.'s No. 2, 15-23-20, dr shale 1100 ft. Lacal Natural Gas Co.'s No. 1, 32-22-20, dr 350 ft. Scott Brothers Drilling Co.'s No. 1, 18-22-19, dr gray sand 1850 ft. Glenn Woodward's No. 1, 32-22-20, dr shale 400 ft.

MONTEREY COUNTY—Pacific Inland Oil Co.'s No. 1A, 19-23-15, will cmt string small cas at 1860 ft, td 2340 ft.

SAN LUIS OBISPO COUNTY—Emerich Oil Co.'s Holland 1, 22-32-22, dr shale 1450 ft. Kent and McDonald's No. 1, 3-32-22, redrilling 1000 ft. J. D. Martin's Pricco 3, 5-31-13, dr shale 250 ft.

STANISLAUS—Rushing Oil and Development Co.'s No. 1, 20-3-13, dr shale 2565 ft.

TULARE COUNTY — Gravity Exploration Co.'s Hudson B-1, 11-24-23, fsh for drill pipe 2210 ft, may deepen.

YOLO COUNTY—Pacific Northern Gas and Oil Co.'s Guinda 1, 23-12-3, fsh for drill pipe, depth not announced.

SOUTHERN CALIFORNIA

BUENA PARK—Buena Park Oil and Development Co.'s Langstaff 1, 34-3-11, lcn.

FULLERTON — Orange Thorpe Corp.'s Skinner 1, 32-3-10, dr rock 2855 ft.

HASLEY CANYON—W. W. Stabler's No. 1, 32-5-17, will deepen from 3212 ft.

HERMOSA BEACH—Tulsa Oil Co.'s No. 2, 6-4-14, co 3140 ft.

LYNWOOD—W. L. James' Graham 1, 31-2-12, will run cas, td 1572 ft.

MONTEBELLO—A. W. McNiel's Fee 1, 7-2-11, rig.

NEWHALL—W. T. Ball's No. 1, 34-32-16, dr shale 1726 ft. Spencer and Brubaker's No. 1A, ready to sp. Southern California Drilling Co.'s No. 2-1, 13-3-16, dr shale 1326 ft. Superba Pet. Corp.'s No. 1, 11-3-16, will deepen from 100 ft.

PLAYA DEL REY—Cooperative Development Co.'s No. 1, 26-2-15, co 1520 ft.

PUENTE HILLS—Eldorado Oil Co.'s Baird 1, 30-2-9, fsh 2865 ft.

WILMINGTON—Walter Barcus' Lupie 1, 28-4-13, rig.

Deep Ventura Test Coring Hard Shale at 9635 Feet

Ventura, Calif.—Associated Oil Company has passed the depth at which Lloyd 83 was expected to have been tested, and is now coring hard shale at 9635 feet in the deepest well ever drilled in the Ventura Avenue field. The shale shows no cuts, but this is characteristic of such a formation. The streaks of oil sand below 9000 feet have been unusually good, and there is little likelihood of water trouble below the seven-inch shutoff at 8579 feet. Gas pressure is unusually high, and weight material is being used. Drilling is still in the Pliocene, the formation which has been logged from top to bottom. The Ventura valley probably has the thickest Pliocene deposits in the world. Granting that the upper Miocene may be productive in this field, it should be possible to complete wells below 12,000 feet, but drilling to such a depth will not be attempted under present conditions.

The Ventura Avenue field has been conservatively developed by Associated Oil Company and Shell Oil Company, with General Petroleum Corporation a smaller operator. The number of active wells is now smaller than the average of the past three years. Even the completion of a record deep well should not bring about intensive drilling.

Huntington Deepening Not Expected to Be General

Huntington Beach, Calif.—Deepening of a few wells in the townlot district of the Huntington Beach field does not mean that determined efforts will be made to develop an extremely deep zone. The Texas Company started deepening one well to a short distance below the old depth of 4000 feet, but is expected to test the 4400-foot zone only. Superior Oil Company will deepen an offset, and other wells probably will be taken to the deepest known producing zone. Due to lease provisions, drilling or deepening one well may lead to a long chain of offsets. No effort is being made to find a deep producing zone below 7000 feet, the three or four failures between 7000 and 9000 feet having frightened the average operator. During the heat of excitement attending the drilling of the very deep wells, several companies stood ready to start deep wells from the surface. The several failures reduced their courage to a minimum, and they are now satisfied with what they have. Offsetting may be necessary, however, where the 4400-foot zone is at stake.

OKLAHOMA FIELDS

Three Wells at Oklahoma City Nothing to Write Home About. Active Seminole Pools Expect to Slacken.

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Soldiers Only Excitement At Oklahoma City

Oklahoma City.—The past week was unusually quiet in the Oklahoma City pool excepting the fact that Lieutenant Colonel Cicero I. Murray marched into the field at the head of 30 guardsmen who will patrol the leases 24 hours a day. Three wells were completed but none were in the gusher class. Los Angeles Petroleum Company's Levy 1, SW NE NE SE Section 15-11n-3w, made 1177 barrels in one hour and had gas at a measured rate of 120,000,000 cubic feet. Six-inch casing is set near top of the Wilcox sand at 6396 feet and total depth is 6491 feet.

Marion Oil Corporation completed No. 1, CW½ SE NW NW Section 10-11n-3w, flowing 3057 barrels the first three hours from Wilcox sand at 6380 to 6503 feet. Gas was estimated at 35,000,000 cubic feet. Indian Territory Illuminating Oil Company and Phillips Petroleum Company shut in without gauging when gates started cutting out at No. 2, CSL NE SE SE Section 34-12n-3w, in the northern portion of the pool. The well produced 128 barrels in 10 minutes, flowing through a 2¾-inch choke against 1000 pounds back pressure. Wilcox sand was logged from 6255 to 6370 feet, the total depth.

Seminole Area Inventory Shows 50 Active Locations

Seminole, Okla. — Activity in the Seminole district is being led by West Seminole, Sacred Heart-West Konawa, and Fish with scattered development bringing the total number of operations to 50. Status of the district as of June 21 was as follows:

Pools	Locations	Rigs	Wells Drilling or Rigging up	Shut Down
Bebee	1	0	4	2
Conservation	0	0	2	2
East Earlsboro	0	0	0	1
Fish	0	1	5	1
East Little River	1	0	0	0
Konawa	0	1	2	0
Maud	0	1	0	0
St. Louis	0	0	1	0
Wanette	0	0	3	0
Wewoka Townsite	0	0	2	0
West Seminole	0	0	8	2
Sacred Heart-W. Konawa	0	1	9	0
Totals	2	4	36	8

The Sacred Heart-West Konawa area is gradually passing from the picture although it now leads in the total number of active wells. Amerada Petroleum Corporation's Mitchell 1, NE NE NE Section 3-6n-4e, south offset to the discovery well in the Sacred Heart pool, made 735 barrels of oil and 365 barrels of water during 24-hour gauge. This was approximately the same percentage of water that it made during the preceding week. Total depth is 4270 feet in the Simpson formation. No further report had been made on the water condition in Pure Oil Company et al's Tucker 1, SE SE SE Section 34-7n-4e, west offset to the discovery well and reported to have made a trace of water during the preceding week. It flowed and swabbed 829 barrels in 24 hours, producing from 4277 feet, in Simpson formation. Noble Drilling Company and Indian Territory Illuminating Oil Company's Lucas 1, NW NW NW Section 2-6n-4e, southwest offset to the discovery well, swabbed 160 barrels of oil the first hour, 657 barrels the next 11 hours and 257 barrels the last five hours, making a total production of 1074 barrels in 17 hours. The pay sand is at 4163 to 4165 feet. Additional tankage was being erected.

Arrow Drilling Company et al are rigging up cable tools after plugging back from 3801 feet in Noble 1, NE SE SE Section 26-6n-4e, in the West Konawa area. A sand originally reported at 2900 to 2915 feet will be tested. The lease upon which this test is being drilled has expired and the lessees will try to hold it under the "due diligence" provision of a recent court decision. Magnolia Petroleum Company apparently has a dry hole in the Simpson in School Land 16 No. 1, NE NE NW Section 36-6n-4e, one-half mile due south of the discovery well in West Konawa. When last reported it was drilling below 3885 feet in Simpson formation and had nothing showing.

Magnolia Petroleum Company swabbed 210 barrels in 21 hours and was preparing to place on the pump Davis 2, NE NE NE Section 15-7n-4e, in the old Pearson area of southeastern Pottawatomie County.

Wanette Pool

Mid-Continent Petroleum Corporation was drilling below 2300 feet in Archer 4, SE SE SE Section 14-6n-3e, in the northeastern portion of the Wanette pool. Gypsy Oil Company was

rigging up cable tools after setting eight-inch casing at 3349 feet in Horn 6, NE NE NE Section 23-6n-3e, south offset to the Mid-Continent test. Pay sand was logged from 3488 to 3489 feet and the hole probably will be drilled deeper before being completed. Papoose Oil Company's Horn 1, NW NW NW Section 24-6n-3e, had Belle City lime at 2290 feet and was drilling below 3380 feet.

Fish Pool

Empire Oil & Refining Company's Fish 3-D, SE SE SE Section 19-7n-8e, an inside dry hole in the Wapanucka lime in Fish, has been pumped full of mud and will stand awaiting a possible play for Wilcox sand production. A hole full of water was encountered at 3215 feet although the location is between two good producers in the same formation. The Texas Company is shut down waiting on cement to set in Eliza 3, SW NW SE Section 19-7n-8e. Mid-Continent Petroleum Corporation was drilling below 2700 feet in Jacobs 1, NW NE SE Section 9-7n-8e. Potentials were taken during the latter part of the week on Empire Oil & Refining Company's Fish 4-D, NW SE SE Section 19-7n-8e; the same operator's Campbell 1, NW SW SW Section 20-7n-8e; and Davis 1-B, NW SE NE Section 30-7n-8e. Limestone Oil & Gas Company's Walker 1, CNE NE Section 15-7n-8e, pumped at the rate of about 125 barrels daily but is shut in with no pipe line connection. Production is coming from 1238 to 1245 feet.

West Seminole

Amerada Petroleum Corporation and Stanolind Oil & Gas Company have completed Chase 2, SE NE SW Section 29-9n-6e, for 2334 barrels on a 24-hour gauge. Wilcox sand was logged from 4072 to 4100 feet and the formation shot with 60 quarts at 4066 to 4094 feet. When completed early in the month it swabbed 1221 barrels in 14 hours before being shot.

Pittsburg County

Ruby Ann Oil Company has abandoned George 1, SE NW SE Section 3-4n-16e, wildcat test 1½ miles west of Haileyville in eastern Pittsburg County. A showing of gas was encountered between 1116 and 1157 feet and the hole abandoned at 1282 feet. This test was located in a high carbon ratio area which so far has yielded nothing but gas in commercial quantities. Nearest production is a small gas field near the town of Featherston, approximately 16 miles to the northeast. Three other wildcat tests are located within a radius of 25 miles of the Ruby Ann test, all being in an area which is not likely to yield anything other than gas.

Oklahoma Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Schermerhorn Oil Co., Cox 4, sw ne se 23-4s-3w	10	1200
CREEK COUNTY—		
Magnolia Pet., Williams 7, se ne se 4-16-7e	*	2906
Hanan & Grout, Garrett 1-A, ne sw ne 20-16-10e	*	1300
Hazelwood et al, Rentie 1, ne sw se 32-19-9e	¶5	2371
HUGHES COUNTY—		
Eason Oil Co., Huggins 1, c nw se 1-7-8e	*	3093
LINCOLN COUNTY—		
Sovereign Oil Corp., Selacek 1, ne c se 3-12-5e	*	4850
LOGAN COUNTY—		
Haley-Garber & Pulse, 1, se c sw 33-18-3w	*	4100
NOBLE COUNTY—		
C. C. Bennett et al, McCaughtry 5, ne c 21-23-2w	10	2640
OKLAHOMA COUNTY—		
Phillips Pet. et al, August 1, swc ne 3-11-3w ....3 hrs	6174	6421
Slick-Urschel, Long 3 swc se 15-11-3w .... 8 hrs	2491-¶7½	6528
Gulf Production Co. (Okla.), Spencer Add. 4, se ne nw 22-11-3w	location	abn.
I. T. I. O., MKT 7, nw sw sw 35-11-3w .... 2 hrs. 38 min.	1017-¶38	6363
OKMULGEE COUNTY—		
Amerada Pet. Corp., et al, Louis 1, swc se 12-14-12e	*	2666
Coile Co., Sutton 1, c sw sw 33-14-14e	*	1872
PITTSBURG COUNTY—		
Tape Oil Co., Fulton 1, sec 34-7-14e	*	2500
PONTOTOC COUNTY—		
Fleethorn Oil Co., Norris 1, ne c 28-5-6e	*	2045
Westheimer & Daube, Wade 12, ne c sw ne 19-5-8e	*	1046
SEMINOLE COUNTY—		
Empire, Fish D-4, nw se se 19-7-8e	402	3086
Empire, Campbell 1, nw sw sw 20-7-8e	909	3104
Sinclair-Prairie, Foster 1, se nw nw 1-8-6e	122	4108
Anderson & Kerr, Blanton 1-A, se c nw 29-8-7e	*	3328
Sinclair-Prairie, Cudjo 4, csl nw nw 35-9-6e (owdd)	10	4145
STEPHENS COUNTY—		
Eggers-Pierce, Bardett 1-a, ne se ne 20-1s-8w	*	2385
Pace et al, Watkins 12, se ne se 21-2s-7w	140	1736
Gilbert et al, Green 2, se c ne 2-2s-8w	35	1430
T. W. Medlin, Moore 1, ne c nw 11-2s-8w	75	1997
Newland Co., Nigh 1, nw ne sw 11-3s-8w	location	abn.
TULSA COUNTY—		
Cummings Bros., Bruner 1, cwl ne nw 27-17-13e	50	2001
Lambert et al, Herrod 1, ne se sw 9-19-14e	*	1842
WAGONER COUNTY—		
LaPierre Co., Roberts 1-A, csl se sw 14-18-15e	*	1509
J. Martin, Drew 3, cnl ne sw 26-18-15e	25	1043

New Operations

CARTER COUNTY—Jess Russell, Ratliff 1-A, ne nw sw 19-1s-2w. Schermerhorn Oil Co., Cox 9, sw ne se 23-4s-3w.

CREEK COUNTY—W. G. Banks, Miller 1, cel sw sw 30-17-12e. Sheridan Oil Co., Anthis 2, c w½ se 1-16-11e. G. L. Reasor, Riefer 1-A, c se sw 29-17-12e. Carlson et al, Perryman 1-A, se sw sw 11-14-10 east. Jenkins et al, Miley 1, sw sw nw 28-14-10e. Elson et al, Jackson 1, nwc se 20-15-10e. Westfall Drilling Co., Jackson 1, se ne nw 3-18-8e. Fogle & Marble, Evans 1, ne ne sw 7-19-9e. Holmes Oil, Deere 1-A, se sw se 25-19-9e. Johnson Oil Ref., Boyd 2, nw se nw 29-19-9e.

HUGHES COUNTY—
Limestone Oil & Gas, Walker 2, csl ne ne 15-7-8e.

MUSKOGEE COUNTY—
Mack Drlg. Co., Richards 5, c sw nw 34-16-15e.

OKFUSKEE COUNTY—
Moffett et al, Pharch 1, se c nw 26-11-11e.

OKLAHOMA COUNTY—
Phillips Pet., Mosey 3, csl se ne nw 3-11-3w.

OKMULGEE COUNTY—Buckingham et al, Luckey 1-A, c sw ne 18-13-13e. Simons et al, White 3, cwl nw ne 21-14-11e.

PAWNEE COUNTY—Joe Samples, Martin 1-A, se c sw 7-20-9e, formerly listed as se sw sw. Privett Drlg. Co., Harned 2, sw ne se 3-20-6e (owdd).

PONTOTOC COUNTY—Rex Moore et al, Brown 1, sw sw ne 27-5-6e.

SEMINOLE COUNTY — Amerada Pet. Corp. & Stanolind O&G, Chase 4, nw sw se 29-9-6e. Amerada & Stanolind, Chase 5, ne ne sw 29-9-6e.

STEPHENS COUNTY—Geo. Pace, Bristow 4, ne se se 18-2s-7w, formerly listed as sw ne se.

TULSA COUNTY—H. Bowden, Perryman 4, nw ne nw 4-17-14e. Bowden & George, McIntosh 2, nw nw nw 4-17-14e.

WAGONER COUNTY — Brown Pet. Co., Charles 1-A, sw ne ne 33-17-16e. Sands Pet. Co., Robin 2, csl sw sw 23-18-15e.

Wildcat Drilling Report

(Wells shut down not included)

KAY COUNTY—Blubaugh et al, Indian 1, c nw se, 30-25-1e, water sand 2356-75 ft, sand 2398-2416 ft, T. sandy lime 2449 ft, so, 5 3/16 inch cas 2454 ft, dr 2485 ft.

ELLIS COUNTY—L. C. Hivick et al, Roper 1, c se nw 21-20-24w, rog.

NOBLE COUNTY—Wentz Oil Corp., et al, Wolff 1, c se nw 17-20-2w, rig.

BLAINE COUNTY—Watonga Pet., Masters 1, sw nw nw 27-16-11w, dr 275 ft.

LINCOLN COUNTY — Hilton Phillips, 1, sw nw 2-14-3e, pb from 5080 ft, shot 30 4305-25, S.S.O. and 750 ft wter, sd.

POTTAWATOMIE COUNTY — Brown et al, Souter 1, nwc 35-11-4e, cellar.

WASHITA COUNTY — Burns & Prince, Dock 1, swc, 21-8-18w, Granite Wash 1760-70 ft td, so, sd.

PITTSBURG COUNTY—Moffett & Hall, Jones 1, c ne nw, 14-8-14e, td 450 ft, sd.

KIOWA COUNTY—Christian, James 1, ne se, 8-7-18w, td 1200 ft, ur 1185 ft.

PITTSBURG COUNTY—Tape Oil Co., Fulton 1, se c 34-7-14e, brkn sand 1440-80 ft and 1525-35 ft, dry sand 2005-10 ft, S.S.G., td 2500 ft in Atoka shale, D&A.

PONTOTOC COUNTY—Sunray, Grant 1, c se ne, 11-4-8e machine.

GRADY COUNTY—Carter et al, Community-Carson 1, se c, 12-3-8w, D&A 5000 ft. English Drlg. Co., Heenan-Coe 1, ne se ne, 32-3-7w, td 1900 ft.

PONTOTOC COUNTY—Edna Marie Oil, McWhirt 1, ne se, 11-2-6e, lcn.

COMANCHE COUNTY — Trahan-Wilson, Pruitt 1-A, ne sw se, 8-1-9w, sand 1604-09 ft, td S.S.O., sd.

MARSHALL COUNTY—Hughes, Ayres 1, ne se 30-7s-7e, dr 200 ft.

ATOKA COUNTY—Brookshire, Guinn 1, nw c, 18-3s-10e, Sycamore 1965 ft, td 1967 ft, sd.

STEPHENS COUNTY — Gillette Bros., Cooley 1-A, nw se nw, 17-2s-8w, rog.

ATOKA COUNTY—Morris et al, Ray 1, ne nw ne 8-2s-12e, td 256 ft, sd.

KANSAS FIELDS

Harvey County Well Doubles Output and May Be Carried Still Further Into Hunton Lime.

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Harvey County Hunton Well Increases After Deepening

Wichita, Kansas.—Completion of a second Hunton lime producer and deepening of the discovery well in that formation were perhaps the outstanding development items of the past week in Kansas. Frank Hollow et al deepened Fee 1, SW SW NW Section 20-22s-3w, Hunton lime discovery in northwestern Harvey County. The well originally was completed March 23, 1932, as the first Hunton producer in the state, making 520 barrels initially from that formation at 3499 to 3509 feet. It is now deepened to 3512 feet where it is averaging about 52½ barrels an hour, flowing natural. This is more than double the initial production and operators may decide to deepen further. Hunton lime has not been generally recognized in western Kansas but where it has been found elsewhere in the state it has been dry and the formations below it have not produced in commercial quantities.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Froese 1, CSW SW NW Section 20-22s-3w, an irregular offset to the discovery well, is the second Hunton producer in the state with an initial production of 968 barrels in 14½ hours. Hunton was encountered at 3480 feet and cored from 3492 to 3496 feet, the present depth. Skelly Oil Company is connected and will run 50 barrels per day.

D. R. Lauck et al's Krehbiel 1, CNE NW SW Section 9-22s-3w, approximately two miles northeast of the discovery well and five miles south of Voshell proper, was drilling at 3255 feet after topping Mississippi lime at 3225 feet. No chat was present above the lime and the formation changed abruptly from variegated shales to true Mississippi lime. This is an unusual condition for this portion of the state since a considerable thickness of reworked Mississippi lime or chat is usually encountered and a goodly portion of western Kansas production is obtained from the chat.

Sharpe Pool

Two wells were added during the week in the Sharpe pool, located about three miles northeast of the Schurr-Raymond pool in western Rice County. Werbros et al's Heckel 1, CSW SW NW Section 18-20s-9w, east offset to Hinkle et al's Sharpe 1, the discovery well, encountered Arbuckle limestone at 3316 feet and was drilled to 3324 feet where it pumped 552 barrels the first 12 hours through 2½-inch tubing. It has been given a potential of 1104 barrels. The new well is on acreage farmed out by Empire Oil & Refining Company.

Empire Oil & Refining Company's Heckel 1, CNW NW SW Section 18-20s-9w, southeast offset to the discovery well, made 408 barrels through 2½-inch tubing on a 12-hour pumping test. Production is coming from Arbuckle lime at 3333 to 3338 feet.

Empire Pipe Line Company is laying a three-inch line from the wells to a loading rack at Chase, which is about three miles north on the Santa Fe railroad. Oil so far produced from the discovery well has been hauled to Chase by tank truck.

Barton-Ellsworth Arch Area

Slick et al's Heiken 1, NE NE NE Section 26-17s-10w, west offset to the discovery well in the Heiken pool, pumped 210 barrels in eight hours after

Kansas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CHAUTAUQUA COUNTY—		
Murphy et al, First National Bank 1, se c nw 8-33-11e	location	abn.
COWLEY COUNTY—		
Lewis-Johnson Oil Co., Orr 2, se ne ne 30-31-6e	50	2953
Deal Oil Co., Randel 1, nw sw se 22-32-4e	470	3342
Roth et al, Southwestern College 2, swc nw se 22-32-4e	350	3307
ELLSWORTH COUNTY—		
Smith & Ash, Stratman 1, nw ne ne 12-17-10w	1734	3285
GREENWOOD COUNTY—		
Standard Oil Co., Pees 1, cnl sw sw 29-23-11e	*	2032
McGinnes, Peoples 5, se sw ne 33-23-11e	*	2040
McPHERSON COUNTY—		
Braden-McClure, Sadey 1, swc 18-19-1w	50	3474½
Darby Pet. Co., Coons 1, ne c sw 20-19-1w	1234	3427
J. H. Reed et al, Keefer 1, nwc sw ne 21-19-1w	*	1900
Detrick, Sinclair 1, se c sw 25-19-1w	*	3538
Mohawk Oil Co., McGill 1, swc ne 7-20-1w	10	3421
SEDGWICK COUNTY—		
Rosespring Drlg. Co., Pinsen 1, cnl sw sw 15-25-1e	165	3393
Standard Oil Co., Linot 1, c se se sw 8-28-2e	*	3460

New Operations

COWLEY COUNTY—Roth et al, Perdy 3, se ne se 31-31-8e (owdd). Deal Oil Co., St. Johns College 1, nwc ne 27-32-4e.

ELLSWORTH COUNTY — Walker Oil Corp., Remley 1, sw se ne 23-14-7w.

GREENWOOD COUNTY — Sinclair-Prairie Oil, Davis 1, c s½ se se 6-24-12e.

HARVEY COUNTY—Mabee Drlg. Co. & Shell, Martens 1, ne c se 19-22-3w.

MARION COUNTY—Hammon et al, Mitchell 1, nw ne nw 14-17-4e.

McPHERSON COUNTY—Vernon Oil Co., Drum 3, sw sw ne 35-19-2w. Western Gasoline Co. et al, Wall 1, nw sw se 21-21-3w (owdd). Wood Bros., Neufeldt 1, sw nw se 21-21-3w.

WOODSON COUNTY—McGinnes, Snyder 1-A, se ne sw 31-23-14e. Pure Oil Co., Winschawk 13, ne c nw 6-24-14e. Theta Oil Co., Schaffer 1-A, swc se 31-23-14e.

Wildcat Drilling Report

(Wells shut down not included)

SEDGWICK COUNTY—Standard of Kansas, Linot 1, c se sw, 8-28-2e, Sil. lime 3440-60 ft td, hfw, D&A. Cameron & Great Basin, Landson 1, c se nw, 13-28-2e, spd and sd.

PRATT COUNTY—Ninnescah O&G, Hardesty 1, sw se se 28-27-11w, ru and sd.

SEDGWICK COUNTY—Miller et al, Jones 1, swc, 26-27-1e, td 1560 ft, sd. Scroggins et al, Bartlett 1, nw se nw nw 35-27-1e, dr 150 ft.

BUTLER COUNTY—Ramsey et al, Michael 1, sw nw nw 18-27-3e, dr 1090 ft.

EDWARDS COUNTY — Mid-Kansas, Converse 1, sw ne ne, 30-24-18w, 8-inch 3553 ft, hfw 3680 ft, dr 3828 ft.

RENO COUNTY—National Union, Hill 1, ne se 18-24-4w, lcn.

FINNEY COUNTY — National Ref. Co., Wells 1, swc, 13-23-30w, td 5080 ft, ur 6-inch.

HARVEY COUNTY—D. R. Louck, Ratcliff 1, sw se nw, 9-22-3w, 10-inch 2535 ft, dr 2881 ft.

BARTON COUNTY—Midwest, Scheufler 29, c sw se, 9-20-11w, dr 2645 ft.

RICE COUNTY—Langston et al, Wells 1, ne se 4-20-9w, rig. Roy Ramsey, Hilton 1, sw ne sw 6-20-9w, dr 1160 ft.

BARTON COUNTY—Skelton-Ott 1, c se se, 16-19-14w, sd 3600 ft, csg trbl.

McPHERSON COUNTY — Snyder et al, Carlson 1, se c, 4-19-3w, td 450 ft sd. Deitrick et al, Sinclair 1, se sw, 25-19-1w, Wx. 3535-38 ft, td, hfw, D&A.

MARION COUNTY—Deitrick et al, Dalke 1, nw se, 11-19-1e, spd and sd.

RICE COUNTY—Slick et al, Orth 1, se se ne, 27-18-10w, dr 2190 ft.

McPHERSON COUNTY—Simmons-Canary, Krehbiel 1, 33-18-1w, td 2235 ft, ur 10w.

CHASE COUNTY—Ryan et al, Lipps 1, c se sw, 25-18-6e, dr 410 ft.

ELLSWORTH COUNTY—Slick et al, Dreford 1, sw nw, 7-17-10w, dr 370 ft.

McPHERSON COUNTY — Sidwell et al, Nichols 1, ne nw nw 28-17-1w, rig up.

ELLSWORTH COUNTY — Raymond Gear & Hannah, Korboth 1, se nw, 12-15-10w, spd and sd. Johnson-Vickers, Claussen 1, c se nw, 31-15-10w, dr 2750 ft. Walker Oil, Remley 1, sw se ne 23-14-7w, rog.

SALINE COUNTY—Twin Mounds, Weis 1, c w½ ne nw 20-13-4w, (owdd) 10-inch 2831 ft, td 3147 ft, ur 6-inch.

GRAHAM COUNTY — Schleimeyer et al, Smith 1, se c, 24-8-25w, ru.

SHERIDAN COUNTY — Flo et al, Shoemaker 1, se sw sw, 27-7-26w, sd 4520 ft, co.

PHILLIPS COUNTY—Hall et al, Donaldson 1, c ne ne, 25-5-18w, T. congl. 3365 ft, so 3375 ft, td 3385 ft, fsh bit.

being shot with 40 quarts in Arbuckle limestone at 3232 to 3266 feet. This discovery well was completed October 15, 1931, and shut in for lack of outlet with an estimate of 2000 barrels initial. Placed on the pump December 12, 1931, it produced at the rate of about 41 barrels per hour from 3221 to 3242 feet. It may be deepened a few feet.

Aylward et al have run three-inch tubing and are preparing to take potential on Stratman 5, CSW SE SE Section 1-17s-10w, in the Stratman pool of southwestern Ellsworth County. Arbuckle lime was logged from 3238 to 3249 feet.

Williams and Moore's Stratmore 1, C SW SE Section 23-16s-10w, a completion of several weeks ago, is now making about 350 barrels of oil and 350 barrels of water on the pump. Operators of this well have had difficulty since encountering top of the Arbuckle at 3388 feet and penetrating only four feet. In an attempt to cement casing, a string of tubing was cemented and several weeks were required to remove it. The last few joints had to be drilled out and no report has been made available concerning condition of the casing. It is possible that the water may be coming from above.

Phillips County

J. J. Hall et al's Donaldson 1, CNE NE Section 25-5s-18w, interesting Phillips County wildcat, has been plugged back to test showings in the Oswald lime logged at 3097 to 3137 feet. After having a showing of oil in the conglomerate topped at 3365 feet, a hole full of water was encountered at 3430 feet in Arbuckle. This test is the most northerly operation in the Mid-Continent area, being more than 40 miles from the nearest production. It is the seventh test for Phillips County, five of which were drilled below 3500 feet and completed as dry holes. The sixth was dry at 2021 feet.

Zwolle Wells Average 41 Per Cent Successful

Shreveport.—Successful drilling in the Zwolle chalk and marl oil producing field is slightly over 41 per cent, a composite total of tests drilled in that district up to June 1, 1932, reveals. A total of 331 tests have been drilled in the general Zwolle area, of which 137 were producers and of which 100 are now producing. Zwolle has a daily average production of approximately 6850 barrels. Production is found in breaks in the marl or chalk in depths ranging from 2100 to 2700 feet.

Edge Leases in Los Angeles Basin Area in Demand

Los Angeles.—A better demand for edge leases in some of the settled Los Angeles basin fields has been reported, as the result of more urgent inquiries for crude deliveries over a long period, and repairing of old producers and drilling of additional wells is expected.

Richfield, which has been one of the quietest districts in the state, has shown a tendency toward a mild revival, but field work will be largely limited to working over old producers and edge wells which have been marginal producers for some time. Harbrecht and Foreman have taken over the Davenport lease, through D. A. Soderberg, and will clean out the present well and drill another on the 90-acre tract in the northeast part of the field. E. A. Parkford is cleaning out and repairing wells on the north end of the field and in a district which has produced from the shallow zone for a long time. The Baker interests are working over wells on the Kraemer lease in the eastern extremity of the field. D. A. Soderberg is cleaning out an edge well on a small lease in the southeast part of the field. The better demand for this medium grade oil has been felt by the average independent operator, and the demand for pumping equipment is expected to show a better tone.

Wildcat Now California's Deepest Drilling Test

Santa Maria, Calif.—Western Gulf Oil Company's Bradley 1, wildcat test on Section 5-9-33, is now the deepest drilling well in California, having passed 9870 feet to establish an unusual record for this district. The formation is still running to a hard brown shale. The company is anxious to take a look at the Vaqueros formation, which has never been touched in this immediate district. Progress is slow, with an average of about 20 feet being made each day. The well is an important test, but it would require a large completion to start more wells toward such a depth.

Rutherford Company Opens Offices in Houston

Rutherford Drilling Company, drilling contractors and producers, San Antonio, Texas, are opening an operating office in Houston July 1, following the beginning of activity in the Conroe field of Montgomery County.

Pat Rutherford, owner of the company, started last week setting up to drill Southwest Texas Development Company 1 location for Warner-Quinlan. Rutherford Drilling Company is operating three rigs, including one in the Refugio field and one in the Saxet field of Southwest Texas, where the company owns producing properties.

Diamond Metal Distributor For Swedish Welding Rod

Diamond Metal Company, 3411 Harrisburg Boulevard, Houston, has been appointed distributor in the Gulf Coast and Mid-Continent territory for the Swedish high carbon and annealed welding rod of SKF Steels, Inc., and manufactured in Stockholm, Sweden.

Sabine River Drilling Will Not Force Offsets

Longview, Texas.—Piling for 16 derricks to be implanted in the bed of the Sabine River within the proven section of the East Texas field has been ordered installed by contract by the two groups of companies that hold the oil development rights through a lease acquired from the State recently on a competitive bidding basis. J. E. Farrell & Company and its subsidiary, Rhodes Drilling Company, Fort Worth, received mineral lease on eight tracts, involving an aggregate of 780 acres of river bed, and by consent of the State has sublet a portion of the award to McAllister Coal Company of McAlister, Oklahoma. J. G. Puterbaugh is president of the latter company, and he also operates in the field as the Blue Star Oil Company.

Officials of the two groups of companies to develop the river bed have announced that for the time being it is planned to only drill tests where offsets are on opposite banks of the stream, and that at no time is it intended to force development work upon the owners of abutting leases. All river bed wells are to be uniformly equipped with 94 foot steel derricks, mounted on piling, aggregating 88 poles for each location, including bridge approaches. The derricks will be elevated above flood stage of the stream. Arrangements have been made with land owners abutting the stream for surface rights in spotting the boilers, tanks and pits.

Rhodes Drilling Company reserved lease on tracts Nos. 4, 5 and the east 4620 feet of tract 7. McAllister Coal Company is starting tests on tracts 1, 2, 3, 6 and the remainder of tract 7.

EAST CENTRAL TEXAS

Completion of a Dry Hole and Pumping Producer Gives Unusual Slant to Field News. Extension as Usual.

H. H. KING, *Staff Representative, Fort Worth, Texas*

Field Extended South and Has Good Chance Southwest

Tyler, Texas.—The south end of the East Texas field was given a minor extension late last week when Sun Oil Company's outpost test on the A. Lee 147-acre lease, Peter Tips survey, flowed 27 barrels of pipe line oil on one-hour gauge through open two-inch tubing from the Woodbine sand at 3643-45 feet and 3654-56 feet, with shale continuing to 3661 feet. The hole is bottomed at 3312 feet below sea level, and in close proximity to the salt water table on this side of the structure. The above gauge was taken after the well had been allowed to stand over-night, and the pressure reading on the tubing dropped from 310 to 10 pounds by the end of the hour flow, indicating a very light producer. It is planned to install a bottom hole choke in the well.

Two outpost tests on the southwest edge of the field and in northeast Cherokee County were cementing pipe on top of sand, with good chances of making producers. J. T. Carter et al's Annie Kelly 1, located a few locations south of production, cored saturated sand at 3763-3764 feet, with the hole bottomed at 3317 feet below sea level. These figures do not represent the true vertical depth, as the hole was surveyed and found to be about 19 degrees off at 2000 feet; 14 degrees off at 3200 feet, and three degrees off at 3600 feet. C. L. Tubbs of Arp, Texas, and associates' J. H. Sharp 1, located on three-acre strip lease, and about three-quarters of a mile northwest of nearest production in Cherokee County, has also landed pipe after coring into sand showing oil at 3721-22 feet, or 3318 feet sub-sea. Sun Oil Company's J. J. Denton 4-A, located in northwest corner of 147½-acre lease, J. Vargas survey, Smith County, and one location from the west edge of production, failed to flow when tested at 3742 feet, or 3315 feet below sea level. An effort is being made to perforate the casing and cement behind same near the bottom, as it is believed that a portion of the oil sand was cased off.

Out of another heavy quota of weekly completions the field yielded a few wells that must be pumped to make their allowable. Sinclair Prairie Oil Company's Mayfield 20-A, located in the most westerly southwest corner of 374-acre lease, Smith County, reported sand at 3755-58 feet, or 3325 feet sub-sea on the total depth, and failed to flow. The well swabbed 54 barrels in eight hours, and probably will be put on pump. W. C. Turnbow Petroleum Company's J. T. Florence 1, located on the southeast edge of the Kilgore townsite, was completed as a pumper after drilling through 40 feet of broken sand at 3540-80 feet, then shale to 3590 feet. W. H. Gant et al's Till 1, located on the southeast edge of the Joiner area, is pumping its allowable within 24 hours at 3658 feet. Tidal Oil Company's J. J. Castleberry 7, located in northeast edge of the Longview area, went on pump last week after having previously exhausted its natural flow, and the agitation of the pump revived the flow to 10 barrels of oil per hour. It is planned to try and get by in pumping every other day.

British-American Oil Producing Company failed to get a good water shut off in plugging back S. Stone 1, which was mentioned a few weeks ago as having developed four per cent water, although located near the heart of the Joiner area and bottomed at 3298 feet below sea level. The well quit flowing last week, and is to be plugged back again. Representatives of the company in the field have denied charges that this well, or lease has exceeded proration allowances in recent months and that the water appearance was due to such withdrawals.

Confronted with eight offsets to drill, and more pending, Fidelity Oil & Royalty Corporation, Houston, is reported to have farmed out its M. Bonner 148-acre lease, Jas. McRae survey, straddling the Gregg-Upshur County line, to Twin Oil Company, Dallas, for a reported consideration of $4,000 per acre, payable out of three-eighths of the first net production. The latter concern was organized last month by T. A. Knight, Dallas; C. R. Rider and George C. Clarke with a capital stock of $50,000.

Dry Hole

Completion of dry holes within the outlined productive area of the East Texas field rarely occurs, but a fourth exception to this unusual rule has been made in the northeast part of the Longview section of the field. Sun Oil Company's J. C. Gray 7, located in northeast corner of 101½-acre lease, D. Sanches survey, failed to qualify as a pumper after deepening to 3687 feet, and into the Georgetown lime, which is barren of production. The rotary rig has been moved off, and the hole temporarily abandoned. It may be given a shot later in the thin streaks of sand passed up between 3609-50 feet. Gray 7 is the fourth location inside the east edge of the field, and surrounded on three sides by flowing wells. Roeser-Pendleton, Inc.'s, W. R. Nicholson 2-B, M. Mann survey, and Columbia Oil & Gas Company and Arkansas Fuel Oil Company's Castleberry 1 and 2, respectively, Sanches survey, experienced a similar fate although wedged in among producers. Tidal Oil Company's Castleberry 4, an east offset to the latter dry hole, was completed last week making 10 barrels of oil on 10-minute flowing gauge via open tubing from seven feet of sand topped at 3613 feet, with red beds and shale at 3620-39 feet.

Two additions to the list of pumpers on the northwest edge of the field and in Upshur County involve workover wells. Saturn Oil Company's W. F. Smith 1, located on 25-acre lease, J. Pineda survey, was temporarily abandoned last April after swabbing mostly water from sand at 3688-3716 feet, or 3314 feet sub sea. It was plugged back to 3701 feet, or 3298 feet below sea level, and is now credited with pumping about 25 barrels daily. W. F. Sorrels Oil Corporation's Brawley 1, M. Mann survey, failed to flow regularly after completing in sand at 3746-53 feet, or 3311 feet sub-sea, with some water showing, and is now pumping its allowable. The hole is reported to be more than four degrees off vertical below 3200 feet.

The supply of natural gas production on the south end of the East Texas field offered by five completed wells is being drained at a heavy rate in some instances, and also utilized only for the recovery of drip gasoline through inability to make deliveries to potential consumers. Until the completion of Sinclair Prairie Oil Company's J. W. Fletcher 1, rated at 5,000,000 cubic feet, or more, daily from broken sand at 3661-3704 feet, this company has been pulling heavily on its J. W. Ashby 1 in order to supply fuel for its many

operations underway, and also outside fuel sales. Peyton Bros. et al's Perry I, south offset to the latter, has been unable to reach a market although it was the first gasser in the field, and in order to offset drainage is used to make drip gasoline, amounting to about 20 barrels daily. The gas production is diverted through a separate or drip trap, and the residue gas is fed to flares for lack of a market. Stanolind-Pure Oil Company's gasser on the Lacy tract is supplying fuel for their own operations, while Earle Brown and W. T. Mack's gasser on the Arnold tract is shut in for lack of transportation facilities in reaching potential market.

Confirmation of Shell Move Rumor Not Obtained

Houston.—Confirmation or denial of the rumor that Shell Petroleum Corporation will move its Dallas, Texas, office force to Houston about January 1, with T. E. Swigart in charge, could not be obtained from the Houston offices this week. The matter was referred to St. Louis for confirmation. The rumor was to the effect that everything in the production department outside of Oklahoma and California would be handled out of the Houston office.

Incidentally, a substantial portion of leases taken by Shell Petroleum Corporation during the past 12 months has been in the salt dome region of the Gulf Coast.

Central East Texas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
JOINER AREA—		
American Liberty Oil Co., (Golding-Murchison), L. J. Pinkston (86½-ac) 4	6500	3640
Bay Oil Corp., W. O. Alford (40-ac) 4	7200	3757
Blackwell O&G Co., Samp Stone (53-ac) 7	5000	3683
Conservative Oil Co., L. Harmon (33½-ac) 5	6000	3780
C. A. Everts Drl. Co., Joe Lee (44-ac) 3	6000	3764
R. W. Fair et al, J. R. Alford 1	1000	3630
Walter H. Gant & Garwin, L. A. Till 1	75	3658
Gulf Prod. Co., A. H. Rayford (60-ac) 2	8500	3772
A. H. Rayford 3-A	7000	3774
Jack Wiley (128-ac) 4	8000	3768
Jack Wiley (128-ac) 6	9000	3758
Humble O&R Co., B. J. Bagwell (38-ac) 2	9500	3718
J. D. Florey (89-ac) 4	10,000	3685
H. A. Piercy (90.66-ac) 4	9000	3778
W. L. Price (206½-ac) 16	7000	3754
W. L. Price (206½-ac) 17	9500	3781
W. L. Price (206½-ac) 18	9200	3794
Heywood White (134-ac) 2-B	8000	3766
Malernee & Bullock Oil Co., E. B. Alford (30-ac) 2	2500	3671
R. J. McMurray et al, Frank Cole (56-ac) 1	7000	3772
Mid-Kansas O&G Co., M. M. Cross (814-ac) 13	1000	3670
M. M. Cross (815-ac) 18	5000	3658
C. L. Graham (134-ac) 6	6500	3660
H. L. Griffin (64-ac) 3	1500	3708
Pittman Oil Corp. (was Snetcher-Pittman), F. J. Cox (36-ac) 4	3500	3720
Rogers et al, D. Bradford 1	750	3719
Jay Simmons et al, D. C. Joyner (7-ac) 1	8000	3705
Sinclair-Prairie Oil Co., J. W. Fletcher (36-ac) 1	¶5	3704
W. T. Grissom (47-ac) 3	6500	3671
W. T. Grissom (47-ac) 4	6300	3665
Allen Kersh (155-ac) 5	6500	3647
W. D. Kinney 30	8200	3678
Mayfield (374-ac) 20-A	200	3758
W. H. McCord (50-ac) 2-A	6500	3660
Peter Tips (230-ac) 2	6000	3679
Mrs. R. G. Wright (107.62-ac) 8	8000	3695
Smith & Pat H. Torrans, W. W. Holland-Torrans (14½-ac) 4	11,000	3652
The Sonbar Corp., A. P. Finney (62-ac) 5	10,000	3707
Standard Oil Co., (Kansas), M. L. Thompson (59-ac) 4	7500	3625
Stanolind O&G Co.-Pure Oil Co., R. J. Burton (145-ac) 5	9000	3694
R. J. Burton (145-ac) 6	9000	3671
R. A. Moores (251-ac) 8	8500	3644
W. H. Siler (949.6-ac) 9	9200	3628
Sun Oil Co., J. A. Layne (103.7-ac) 6	9000	3653
Ellen Till (126-ac) 2	1000	3649
The Texas Co., A. S. Jarvis (81-ac) 6-A	7000	3633
Turman Oil Co., R. Dark (50-ac) 6	7000	3787
Ward Oil Corp. et al, E. S. Thrash (200-ac) 12	5500	3775
Clint Wood Drl. Co., J. B. Irwin-Gulf (35.41-ac) 2	8000	3777
KILGORE AREA—		
W. M. Angle & Daniels, J. C. Clayborn (10-ac) 2	11,000	3712
Arkansas Fuel Oil Co., G. Donelson (40-ac) 3	12,000	3617
M. B. Hughey-Ross (220-ac) 4	9600	3577
Barnsdall Oil Co., J. Douglas-Shell (40-ac) 3	8000	3677
Canadian Oil Producing Co., S. Hilburn (10-ac) 4	7000	3640
Cranfill-Reynolds Co., L. Howard (40-ac) 1	3500	3673
Empire Gas & Fuel Co., O. L. Lockhart (75-ac) 4	8500	3580
Gulf Prod. Co., H. C. Alexander 7	9000	3563
H. C. Alexander 10	9000	3564
C. Brown 6	15,000	3560
C. Brown 8	8800	3588
C. Brown 10	10,000	3544
Mary Charles (71-ac) 6	9500	3592
C. E. Christian (277.65-ac) 14-C	9600	3672
S. Hilburn (200-ac) 24	9200	3588
W. Holt 11	8000	3607
J. S. King (26-ac) 3	9600	3586
Houston Oil Co., S. S. Laird (70½-ac) 4	6500	3687
Houston Prod. Co., W. P. Brightwell (18-ac) 2	10,000	3599
Humble O&R Co., Henry Sexton (200-ac) 6-B	7000	3728
E. R. Liner, Inc., J. C. Clayborn (31-ac) 1-D	12,000	3688
W. H. Warlick (5-ac) 1	11,000	3718
Louisiana Oil Ref. Corp.-J. I. Roberts, W. C. Griffin (71-ac) 3	13,000	3574
W. M. Jernigan (110-ac) 5	9500	3611
Magnolia Pet. Co., A. Hicks (99-ac) 6	11,000	3686
A. Hicks (99-ac) 7	9600	3644
R. H. Roland-Warehouse (12-ac) 1	4000	3583
McVey et al, Kelly Dixon 1, blk 137	7500	3598
Navarro Oil Co., E. G. Green (23-ac) 2	500	3600
Petroleum Finance Corp.-Shasta Oil Co., Laird-Crim (25-ac) 3	12,000	3563
Republic Prod. Co., Wm. Clayton (60-ac) 4	9000	3598
Republic-Louis Hart, T. E. Haynes (11.45-ac) 3	8200	3661
Rhodes Drl. Co., S. Brox (20-ac) 2	4000	3695
Dr. J. S. Rushing et al, J. M. Dickson (17-ac) 3	8500	3597
Shell Pet. Corp., H. T. Elder (25-ac) 2	9200	3568
W. D. Lacey 3	10,000	3569
W. D. Lacey 4	9000	3569
B. F. Laird (211-ac) 5-A	15,000	3558
J. B. Watson (285-ac) 18	7000	3678
Sinclair-Prairie Oil Co., S. G. Andrews (200-ac) 7	11,000	3485
S. G. Andrews (200-ac) 8	9400	3504
M. T. Cole (666-ac) 23	4500	3620
M. T. Cole (666-ac) 25	4000	3579
M. T. Cole (666-ac) 27	4300	3594
A. A. King (290-ac) 20-A	9600	3532
A. A. King (290-ac) 22-A	14,000	3473
A. A. King (290-ac) 24-A	10,000	3490
A. A. King (111-ac) 6-B, Tract 2	13,000	3470
A. A. King (91-ac) 1-B, Tract 3	9000	3456
A. A. King (147-ac) 5-B, Tract 5	6500	3465
A. A. Lockhart (128-ac) 7	8000	3696
E. L. Smith Oil Co., M. J. Register (29-ac) 2	10,000	3548
Spandsco Oil & Roy. Corp. (M. Rubin), Abe Holt-Shell 1	1200	3740
Standard Oil Co. (Kansas), J. A. Knowles (22-ac) 2	3000	3618
Sun Oil Co., Calvin Brown (100-ac) 3	13,000	3670
M. T. Cole (264-ac) 8	12,000	3555
J. S. Elder (75-ac) 4	10,000	3572
G. Reese (124-ac) 6	11,000	3723
M. Strong (50-ac) 3	5000	3650
The Texas Co., M. T. Cole (220-ac) 7	5500	3560
W. Davis (64-ac) 2	12,000	3621
Tidal Oil Co., M. B. Hughey 12	9600	3532
Van Vleck et al, Leath 1	*	3660
Weaver-Crim Corp., Ben Laird 7	9000	3608
Winston Oil Co., Paul Jones 6	10,500	3697
LONGVIEW AREA—		
Alma Pet. Corp., Jennie Watson (35-ac) 2	8500	3675
Arkansas Fuel Oil Co., Taylor Lee (52.1-ac) 3-A	10,500	3546
F. T. Rembert (86-ac) 4	8500	3485
Ben Rodden (36.91-ac) 1	10,000	3566
L. Y. Tuttle (61-ac) 4	15,000	3590
Atlantic Oil Prod. Co., J. Bander (83.9-ac) 7	11,500	3660
J. C. Judge (520-ac) 8	12,000	3525
J. C. Judge (520-ac) 16	12,500	3527
J. M. Moore (456-ac) 5	10,000	3541
J. M. Moore (456-ac) 9	11,000	3534
G. A. Porter (190-ac) 8	6500	3662
Helen Pritchard (100-ac) 4	13,000	3522
Atlantic-Sun Oil Co., M. Hays 12	9600	3564
M. Hays 20	14,000	3548
Atlantic-J. K. Wadley, T. W. Lee (110-ac) 4	9000	3625
J. G. Beard et al, J. M. Farrell (43-ac) 4	6000	3616
Clark-Cowden-McKinney, J. M. Christian (50-ac) 4	8800	3677
Columbia O&G Co., J. B. Doby (39-ac) 2	13,000	3521
Conservative Oil Co., E. O'Byrne-Humble (20-ac) 1	7000	3748
Cox & Jake Hamon, Jr., Fee (73-ac) 10	11,000	3458
L. A. Rodden (110-ac) 15	7500	3597
Deep Rock Oil Co., H. Pritchard (40-ac) 1	10,500	3562
Empire Gas & Fuel Co., T. W. Lee 4	7200	3565
Gulf Prod. Co., J. H. Bozeman (111-ac) 6	8500	3581
Howard Pet. Corp., Grace Davis (47-ac) 5	15,000	3597
Humble O&R Co., J. F. Boles (100-ac) 5	5500	3626
J. T. Miller (57-ac) 5-B	4500	3688
A. O. Phillips (24-ac) 4	8000	3690
W. G. Humphreys et al, A. Bacle (3½-ac) 1	8500	3653
Kewanee O&G Co., Fee (168-ac) 7	15,000	3590
S. P. Lanier & Collins, E. W. Clements (16½-ac) 2	12,000	3584
C. A. Lester & Duffield, J. C. McKinley (9-ac) 2	7200	3581
Lucey Pet. Co., R. Christian (32-ac) 5	14,000	3631

Company, Well and Location	Initial Production Bbls.	Depth
Magnolia Pet. Co., J. W. Free 8.	12,000	3645
G. W. Richey (45-ac) 3	9600	3624
O. F. Smith (97-ac) 4	10,500	3596
Mansion Oil Co., Knob Walters 2.	11,000	3677
Bobby Manziel et al, E. L. Walker 1-A, blk. 62	7000	3608
Meridian Pet. Corp., T. W. Lee (53-ac) 5	8500	3620
F. W. Merrick, Inc., W. R. Nicholson (96-ac) 4	6000	3688
Midas Oil Co., A. V. Bacle 1	7500	3619
Phillips & Lee, Wood 1	11,000	3643
Pilot Oil Co., T. B. Harris (91-ac) 6	8000	3532
Selby O&G Co., Snavely (361-ac) 5-B	9600	3591
Snavely (361-ac) 13-B	10,000	3586
Showers & W. A. Moncrief, A. V. Bacle (3-ac) 2-B	9500	3614
Shell Pet. Corp., M. C. Slater (38½-ac) 3	8500	3709
Stanolind O&G Co.-Simms-Continental Flewellen (200-ac) 7-A	9000	3686
Stroube & Stroube, Anderson-Harris 1	7200	3539
Sun Oil Co., J. W. Akin (166.2-ac) 9	9600	3614
D. G. Sparks (50-ac) 2	5500	3637
Tidal Oil Co., Castleberry (202-ac) 4	3500	3639
Lake Devernia (270-ac) 9	15,000	3540
W. E. Jones (80-ac) 7	14,000	3646
W. W. Wheeler et al, J. B. Webb (11-ac) 2	6500	3669
J. O. Whittington et al, R. Christian (27-ac) 3	11,500	3638
Yount-Lee Oil Co., M. Jones (55-ac) 6	9000	3593
Stuckey (160-ac) 4	9000	3600
VAN FIELD—		
Pure Oil Co., B. W. Russell (30-ac) 3	150	2995

Wildcat Drilling Report

(Wells shut down not included)

Completions

ELLIS COUNTY—		
Worthen Pet. Co., M. Cerf 2	*	2395
MORRIS COUNTY—		
J. E. Crosbie, Inc., Sibley 1	*	4000
UPSHUR COUNTY—		
Mannus & Snuggs, M. Pool 1	*	4182

ANDERSON COUNTY — Roeser-Pendleton, Inc.'s M. A. Davey 1, P. G. Adams sur, dk. Jack W. Frazier et al's H. L. Hudson (198-ac) 1, M. Rionda sur, lcn.

BOWIE COUNTY—Joe M. Burnham-C. W. Robinson & John Greer's F. O. Weiss (949-ac) 1, J. Dean sur., elev 388 ft, anhydrite 2945-3030 ft, testing 3300 ft. Lee J. Timberlake-Wm. S. King et al's C. E. McElwee (60-ac) 1, Martha A. Poor sur, elev 322 ft, coring sand 2905 ft.

CASS COUNTY—Lapan-Lovejoy et al's S. A. Orr (320-ac) 1, G. W. Morris sur, dk.

CHEROKEE COUNTY — Bridges & Chandler et al's Berryman (300-ac) 1, H. Kimble-Dill sur, sd 1000 ft. W. N. Hamilton et al's Dr. P. E. Jones 1, John Hamilton sur, dk. Wm. A. Stone et al's Mrs. J. I. Perkins (200-ac) 1, Thos. Stanford sur, dr 265 ft. Wilson-Stubbs Oil Corp.'s M. F. Ragsdale (53-ac) 1, J. P. Wolfin sur, dr 1650 ft.

DELTA COUNTY—C. M. Joiner Pet. Corp. et al's J. A. Blackwell 1, H. Dunnetella sur, sd 2260 ft. J. O. Wheeler-Neuville-Yarbo et al (was Commercial Oil Dev. Co.'s) Ablovich 1, E. Chick sur, elev 507 ft, Austin chalk 1885-95 ft, sd 3733 ft.

ELLIS COUNTY—Armstrong Bros. et al's Cook (56-ac) 1, S. Frederick sur, sd 215 ft; Reeves 1, Larkin Newton sur, sd 300 ft; J. T. Winn 1, E. Melton sur, sd 1435 ft. Carl Brooks et al's Anderson (3900-ac) 1, E. C. Branch sur, lcn. Worthen Pet. Co., (W. L. Brandon-Geo. McCamey's) M. Cerf (217-ac) 2, Mullican sur, top Austin chalk 470 ft, Edwards lime 1883-2260 ft, dry and abn 2395 ft.

FRANKLIN COUNTY—T. E. Mayberry et al's M. L. Edwards 1, G. A. Miller sur, dk. J. F. Mills-McGee & Harper's L. S. Harper (118-ac) 1, W. N. Dawson sur, reaming 3300 ft.

HENDERSON COUNTY—B. L. Green et al (was J. M. Rogers') M. H. Gossett (103-ac) 1, L. D. Stover sur A-87, elev 341 ft, top Taylor lime 1450 ft, sd 1800 ft.

LAMAR COUNTY—Doyle & Jondreau's Joe Horn (178-ac) 1, R. P. Mayo sur, sd 2905 ft; L. Martin (132-ac) 1, Joseph Deck sur, sd 2445 ft.

LEON COUNTY—Allday & Schuffler's W. R. Thompson 1, Nathaniel M. Allen sur, lcn. Leon County Oil Co. (Claude Kavenaugh's) John Morris (200-ac) 1-A, A. F. McWhorter sur, moving in heavy rotary, td 2540 ft.

LIMESTONE COUNTY—C. M. Joiner Pet. Corp. & Miller Drl. Co.'s W. Stephenson (54-ac) 1, Geo. Gentry sur, dk.

MORRIS COUNTY — Buchanan-Burkhalter et al's Staggers (65-ac) 1, Forbes & Nelson sur, elev 370 ft, hard pecan chalk 2526-3020 ft, base broken pecan 3095 ft, claim Austin chalk 3483-3506 ft, trace oil, co 3538 ft. J. E. Crosbie, Inc.'s Sibley (25-ac) 1, W. O. Mathews sur, elev 334 ft, pecan chalk 2449-2995 ft, top Blossom sand (dry) 3480 ft dry and abn in blue sandy-shale 4000 ft. Harris Drl. Co. & C. M. Joiner Pet. Corp.'s C. D. Brown 1, lcn. W. L. Murrell-Geo. L. Pace et al's Walcott-Lott (577-ac) 1, D. A. Russell sur, sp. and sd.

RED RIVER COUNTY — L. G. Priest et al's G. W. Ware (1016-ac) 1, J. Burkham sur, sp.

RAINS COUNTY—C. H. Bayless (was Berry-Hale's) Owenby (160-ac) 1, J. Alexander sur, elev 461 ft, top Midway 1130 ft, top Pecan chalk 1996 or 2043 ft, Austin 3468-3800 ft, (DD from 4036 ft) dr 4085 ft.

RUSK COUNTY—Byrd & Frost, Inc. et al's Buckner (49-ac) 1-A, J. E. Peyton sur, lcn, T. E. Castle et al (was E. O. Butler's) R. H. Gary (50-ac) 1, J. Latham sur, (Trinity sand test) cem 10-in cas 170 ft. G. A. Hathaway (was Laster & Miller's Gray 1, Jas. McClain sur, elev 315 ft, Pecan chalk 2180-2537 ft, top Austin chalk 2980 ft, claim show oil 3150-80 ft, sd in Georgetown lime 3196-3365 ft, td 3519 ft, sd to cem 3180 ft.

UPSHUR COUNTY—Mannus & Snuggs et al's M. Pool (55-ac) 1, S. J. Pounds sur, elev. 465 ft, Pecan chalk 2300-2711 ft, top Blossom sand 3294 ft, dry and abn 4182 ft.

VAN ZANDT COUNTY—Daisy O&G Co.'s Mrs. C. A. Browning (100-ac) 1, J. P. Tackett sur, sp. C. M. Powell et al's W. E. Price (4-ac) 1, John Walling sur, lcn.

WOOD COUNTY—Talko Pet. Corp.'s C. S. Ross (86-ac) 1, F. L. Smith sur top Pecan 2892 ft, cem 6⅝ cas 3135 ft td 3158 ft. Wood County O&G Co.'s Guy Davis 1, John R. Clute sur, dr 1155 ft. F. H. Zeigen-DeGenther et al's M. L. McClain (66-ac) 1, Sam Brooks sur, dk.

Permits for Texas Wells

ARCHER COUNTY—Dr. C. W. Wallace, Wichita Falls, Kemp & Kempner, 83, 8, B 77, WVFL sur, 150 ft from s and e lines. Underwood Drilling Co., Wichita Falls, H. L. Ward, 300, 2, 1811 TE&L sur, 300 ft from e and 400 ft from s line. L. G. Bradstreet, Fort Worth, S. Webb, 40, 1, S 3, B 3, I&GN sur, 150 ft from s and e lines. American Refg. Properties, Wichita Falls, Webb, 40, 1, Blk 6, I&GN sur, 150 ft from n and w lines. Fain-McGaha Oil Corp., Wichita Falls, Fee, C, 55, 2, B 3, DCSL sur No. 3, 150 ft from n and w lines. Houston & Houston, Wichita Falls, P. Browning, 90, 8, B 87, GEPL sur, 570 ft from s and 150 ft from w line. D. H. Rubsam, Wichita Falls, L. F. Wilson, 80, 1, B 55-49, Amer. Trib. sur, 330 ft from s and w lines.

BOWIE COUNTY—Wm. S. King, Atlanta, C. E. McElwee, 160, 1, M. A. Poer sur, 400 ft from w and 175 ft from s line.

BROWN COUNTY—C. S. Willmott, Cross Cut, M. J. Suttles, 400, 23, B 140, R. Mitchell sur, 1395 ft from n and 760 ft from w line.

CALLAHAN COUNTY—Kuhlemeier-Kleiner Oil Co., Cisco, W. A. Ramsey, 80, 2, 2282 TE&L sur, 1075 ft from n and 150 ft from w line. R. Guffy, Baird, L. Herron, 40, 1, S 74, BBB&C sur, 630 ft from n and 310 ft from w line. Woodley Pet. Co., Shreveport, La., Hatchett, 320, 22, S 20, D&D Asy sur, 300 ft s of No. 20; 23, 300 ft n of No. 16. Carmichael-Conkling et al, Rising Star, W. C. Adams, 40, 1, B 233, W. Converse sur, 150 ft from s and w lines. C. B. Holmes, Baird, M. Hadley, 130, 1, S 146, BBB&C sur, 150 ft from n and w lines.

CALDWELL COUNTY—C. J. Webster Oil & Gas Co., San Antonio, W. W. McCrory, 110, 2, Jno. Neill sur, 100 ft nw of No. 1. Trinity Drillers, Inc., San Antonio, N. L. Dunlap, 25, 1, S. Seale sur, 150 ft from s and e lines. Humble Oil & Ref. Co., Houston, S. E. Denman, C, 65, 6, J. Darst sur, 2676 ft from s and 279 ft from w line.

CARSON COUNTY—Texoma Natural Gas Co., Amarillo, A. J. Dauer, 1560, 1G, S 74, B 4, I&GN sur, 2420 ft from n and 2645 ft from w li of sec.

CHEROKEE COUNTY — Lee Davis, Fort Worth, A. Kelly, 21, 1, M. S. Coy sur, 330 ft from n and w lines of Blk. 8.

COLLINGSWORTH COUNTY — A. T. Kates, Kenilworth, Ills., R. G. Hickman, 160, 1, S 43, B 10, H&GN sur, center of ne¼.

DUVAL COUNTY — E. R. Thomas, San Antonio, J. F. Welder, 1, Sec. 383 sur, 1320 ft from e and 1000 ft from se corner. Magnolia Pet. Co., Dallas, J. T. Johnson, 160, 1, S 44, J. Poitevent sur, 150 ft e of center of w line. W. P. Luce et al, San Antonio, C. W. Hahl, 40, 1, Sec. 46 sur, 150 ft from n and w lines of sw¼.

EASTLAND COUNTY — W. A. Hudson, Fort Worth, F. P. Dunman, 228, 2, S 10, B 2, H&TC sur, 750 ft from n and 950 ft from w line.

FOARD COUNTY—Texas Co., Fort Worth, L. K. Johnson, 3, S 36, B 2, S. P. Ry. sur, 1050 ft from n and 1950 ft from e li.

GREGG COUNTY—Massey & Holloway, Longview, M. Loughridge, 25, 2, T. Johnson sur, 330 ft from n and e lines. Lucey Pet. Co., Dallas, McHaney, 39, 4, H. Hathaway sur, 330 ft from s and e lines. H. E. Williams, Longview, Alexander, ½, 1, D. Sanchez sur, center. Nash & Windfohr Oil Corp., Graham, C. Jones, 31, 3, G. W. Hooper sur, 378 ft from w and 630 ft from s line. Cypress Oil Co., Dallas, D. Carr, 56, 1, M. McCurry sur, 330 ft from s and w lines; 2, 330 ft from n and w lines. Omega Oil Co., Longview, W. R. Nicholson, 25, 2, M. Mann sur, 330 ft from s and w lines. C. G. Glasscock, Longview, A. V. Bacle, 6, 2, G. W. Hooper sur, 158 ft from s and 185 ft from w line. K. Hughes, Tyler, R. Gray, 9, 2, D. Dainwood sur, 850 ft from s of center of n line. Prince Bros. Drilling Co., Electra, H. M. Williams, 37, 4, H. H. Edwards sur, 550 ft n of No. 3. Cranfill & Reynolds Oil Co., Houston, G. Anderson, B, 19, 2, C. H. Alexander sur, 153 ft from w and 120 ft from s line. Wheelock & Collins, Corsicana, Wm. Clayton, 73, 6, L. B. Outlaw sur, 330 ft from n and e lines. Iowa Payne Oil Co., Marshall, J. W. Akin, 20, 1, Castleberry sur, 600 ft from w and 147 ft from s line. Rio Oil Corp., Fort Worth, L. Graves, 106, 1, M. Irwin sur, 230 ft from e and 330 ft from s line. B. K. Isaacs, Fort Worth, T. B. Harris, 31, 2B, W. H. Castleberry sur, 158 ft from n and 187 ft from w line. Jas. R. Barcus, Gladewater, Heroines of Jerico, 1, 1, D. Dainwood sur, center. Lucey Pet. Corp., Dallas, B. C. Christian, 9, 2, G. W. Hooper sur, 166 ft from n and e lines. J. O. Whittington, Longview, A. Boyd, 13, 2, G. W. Hooper sur, 330 ft from n and 337 ft from w line. J. & J. Pet. Corp., Texarkana, C. Wells, 49, 1, J. M. Norris sur, 330 ft from s and 290 ft from e line. Clark, Cowden & McKinney, Duncan, Okla., J. M. Christian, 50, 4, G. W. Hooper, 660 ft w of No. 1. Jones-O'Brien, Inc., Shreveport, La., J. H. McHaney, 40, 4, H. Hathaway sur, 330 ft from n and e lines. Shano Oil Co., Longview, S. G. Smith, 18, 2, Wm. Castleberry sur, 330 ft from s and e lines. Leonard Pet. Co., Washington, Penna., E. Register, 100, 2, G. F. Penn sur, 340 ft from e and 131 ft from s line. Champlin & Bass, Inc., Tyler, J. B. Watson, 22, 2, Caruthers sur, 702 ft from n and 155 ft from e line. Harcher Oil Co., Kilgore, Block 121A, ½, 1, M. Van Winkle sur, sw corner. Everts Drilling Co., Dallas, J. H. Laird, 11, 2, M. Van Winkle sur, 156 ft from n and 307 ft from e line. Thos. D.

Humphrey, Tyler, A. Spear, 23, 7, M. Van Winkle sur, 396 ft ne of No. 4. Sid Latham, Longview, C. Clayborn, 25, 2, I. Baity sur, 112 ft from n and 215 ft from e line. Fain-McGaha Oil Corp., Wichita Falls, A. Tooke, 100, 6, W. C. Wakeland sur, 1051 ft from n and 330 ft from w line. R. W. Bond, Dallas, J. M. Christian, 1½, 1, G W. Hooper sur, center. Frank Russell, Kilgore, A. A. King, 1, I, M. Van Winkle sur, center of e½ Blk 139. J. W. Briscoe, Tyler, J. B. Crane, 1½, 1, M. Van Winkle sur, 75 ft from n and 100 ft from e li Blk. 139. Pilot Oil Co., Dallas, T. B. Harris, 91, 5, W. H. Caseltberry sur, 740 ft se of No. 6. Frank Russell, Kilgore, Fee, ½, 1, M. Van Winkle sur, 117 ft from w and 50 ft from s line. Washington Oil Corp., Dallas, Cobb, 31, 3, C. Rhodes sur, 730 ft from n and 460 ft from w line. Mrs. Sue St. John, Dallas, A. Bacle, 1½, 1, Hooper sur, 84 ft from e and 180 ft from n line. Gulf Prod. Co., Houston, A. V. Bacle, 69, 6, D. Sanchez sur, 193 ft from n and 241 ft from w line; 5, G. W. Hooper sur, 150 ft from s and w lines; G. Strong, 138, 5, J. Hay sur, 999 ft from s and 330 ft from e line; 6, 1021 ft from e and 330 ft from s line; R. H. Still, 189, 7, Jno. Wilkinson sur, 2115 ft, from s and 330 ft from w line; 6, 996 ft from n and 569 ft from e line; M. O. Shepperd, 335, 13, G. R. Rains sur, 330 ft from n and e lines; A. Muckelroy, 152, 8, J. S. Caruthers sur, 1643 ft from n and 899 ft from w line; C. Strong, 138, 7, J. Hay sur, 1430 ft from e and 1160 ft from s line. East Texas Refg. Co., Dallas, A. Christian, 65, 5, G. W. Hooper sur, 735 ft from n and 106 ft from w line. Sinclair Prairie Oil Co., Fort Worth, A. A. Lockhart, 133, 8, Jno. Blair sur, 330 ft from e and 136 ft from s line; J. E. Lawther, 320, 5, M. Garrett sur, 330 ft from w and 570 ft from w line. Empire Gas & Fuel Co., Gladewater, J. T. Jeter, 123, 2, H. R. Hokit sur, 330 ft from n li and 660 ft nw of No. 1; 3, 275 ft from s and 900 ft from e line. Magnolia Pet. Co., Dallas, R. L. Saulter, 55, 4, H. H. Edwards sur, 330 ft from n and e lines; R. B. Walls, 26, 1, D. Dainwood sur, 330 ft from s and 279 ft from e line. Atuantic Oil Prod. Co., Dallas, P. McGeorge, 40, 1, McAnally sur, 330 ft from s and w lines; 2, 330 ft from n and 213 ft from e line; 3, 330 ft from s and 213 ft from e line; P. C. Castleberry, 35, 3, G. W. Hooper sur, 377 ft from e and 330 ft from s line; J. M. Moore, 456, 21, Johnson sur, 330 ft from n and w lines; M. Fisher, 59, 6, Castleberry sur, 200 ft nw of No. 5; D. A. Porter, 109, 7, G. W. Hooper sur, 330 ft from n and 200 ft from w line. Tidal Oil Co., Kilgore, J. J. Castleberry, 202, 13, D. Sanchez sur, 200 ft from w and 330 ft from s line; C. G. Strong, 113, 7, Jno. Blair sur, 330 ft from n and 260 ft from e line. C. C. Clemens, 28, 4, D. Sanchez sur, 200 ft from n and e lines; A. Davis, 130, 8, W. G. Painter sur, 660 ft s of No. 7; J. S. King, 80, 8, M. Van Winkle sur, 200 ft from s and 1000 ft from e line. Humble Oil & Ref. Co., Houston, J. M. Adams, 100, 1, Jno. Ruddle sur, 330 ft from n and w lines; M. Wells, 70, 5, M. Irwin sur, 330 ft from n and w lines; J. H. Smith, 100, 1, D. Sanchez sur, 330 ft from w and 1070 ft from n line; H. Castleberry, 172, 2, B. N. Hampton sur, 990 ft from n and 330 ft from w line; H. Castleberry, 172, 2, B. N. Hampton sur, 990 ft from n and 330 ft from w line. Shell Pet. Corp., Dallas, N. Jobe, 60, 3, P. W. Warraner sur, 410 ft from e and 1813 ft from s line; B. F. Laird, B, 54, 1, L. B. Outlaw sur, 330 ft from n and e lines; J. Douglas, A, 91, 6, W. P. Chisum sur, 330 ft from n and 250 ft from w line. Sun Oil Co., Dallas, A. A. King, B, 147, 7, Jno. Keiser sur, 330 ft from s and e lines. Yount-Lee Oil Co., Beaumont, J. C. McKinley, C, 57, 4, G. W. Hooper sur, 290 ft from w and 980 ft from s line; J. Flemister, 60, G. W. Hooper sur, 678 ft e of No. 3; G. Fenton, A, 77, 6, D. Sanchez sur, 330 ft from s and w lines; M. B. Harley, 21, G. W. Hooper sur, 306 ft from n and 330 ft from w line. Texas Co., Shreveport, La., J. W. Radford, 50, 2, G. F. Penn sur, 239 ft from w and 160 ft from s line; M. T. Cole, 145, 8, E. L. Walker sur, 660 ft se of No. 3. Arkansas Fuel Oil Co., Shreveport, La., T. Lee, A, 52, 4, Wm. Robinson sur, 330 ft from n and e lines; F. K. Lathrop, B, 58, 3, Wm. Robinson sur, 330 ft from n and e lines. Stanolind Oil & Gas Co., Fort Worth, H. Key, 90, 7, W. H. Castleberry sur, 413 ft from n and 330 ft from e line.

GARZA COUNTY—M. L. Richards, Wichita Falls, W. C. Connell, 160, 1, S 30, GH&H sur, 330 ft from n and e lines.

GRAY COUNTY—Mid-Kansas Oil & Gas Co., Shreveport, La., L. H. Webb, 160, 1, S 61, B 25, H&GN sur, 330 ft from w and 990 ft from s line.

HUTCHINSON COUNTY—Rock Creek Oil Corp., Amarillo, Johnson, 80, 1, S 34, B y, A&B sur, 330 ft from s and w lines e½ of sw¼. C. J. Oates, Stinnett, Starnes, 80, 2, S 24, B M23, T. C. Ry. sur, 1400 ft from s and 370 ft from w line.

LIVE OAK COUNTY—Jacob, Buzzini & Pickett, Inc., San Antonio, L. Jacob, 640, 4, No. 10, W. H. Jacob sur, 660 ft nw of No. 3A; L. Jacob, 640, 1B, No. 15 GH&H sur, 1390 ft from e and 363 ft from s line.

McLENNAN COUNTY—Wortham, Purvis & Stratman, Waco, G. E. Evans, 164, 1, 450 ft n of center of s line.

McMULLEN COUNTY—V. G. Schimmell, et al, San Antonio, Two Rivers, 480, 1, S 59, Two Rivers sur, 2950 ft from w and 330 ft from s line sec.

MASON COUNTY—F. E. Waldrop & E. O. Kothman, Mason, Jordan, 1885, 1, S 17, E. F. Anderson sur, 765 ft from n and 350 ft from e line.

MATAGORDA COUNTY—Southern Drilling & Prod. Co., Bay City, C. M. Hudson, 40, 1, B 15, H. Parker sur, nw corner. Hamill & Hamill, Bay City, N. R. Myers, 3½, 2, Wm. Hadden sur, ne corner; 1, nw corner.

MEDINA COUNTY—Jas. E. Greenlee, Ft. Worth, J. P. Nixon, 80, 1, No. 528 sur, M. Derungs sur, 420 ft from n and 300 ft from e line.

NAVARRO COUNTY — BB&R Oil Co., Corsicana, W. A. Brown, 29, 1, J. B. Berry sur, ne corner.

RUSK COUNTY — W. C. Knox, Kilgore, W. D. Peterson, 4, 1, J. Lewis sur, center. Duncan & Holt, Dallas, R. A. Motley, 37, 3, F. Cordova sur, 330 ft from n and 1119 ft from e line. Darby Pet. Corp., Tulsa, Okla., C. O. Christian, 117, 9, M. McCabe sur, 1500 ft from n and 330 ft from w line; 8, 330 ft from e and 1120 ft from s line. Adams & Lyles, Lockhart, L. P. Thrash, 26, 2, F. Cordova sur, 330 ft from s and w lines. Leonard Pet. Co., Washington, Penna., A. G. Gill, 33, 3, W. A. Elliott sur, 330 ft from n and e lines. Jim Cloud, Inc., Tyler, W. F. Neal, 109, 6, J. Lindley sur, 186 ft from n and 330 ft from e line. Lewis Prod. Co., Dallas, T. Bean, 43, 4, M. Cogswell sur, 150 ft from e and 330 ft from n line. Jno. V. Bordus, Kilgore, Fee, 5, 1, P. W. Holmes sur, center. M. T. Flanagan, Longview, Deason, 6, 2, M. J. Pru sur, 223 ft n of center of s line. Shoreline Oil Co., Marshall, C. B. Hannah, 6, 1, J. B. Cadena sur, 233 ft from w and 150 ft from s line; 2, 150 ft from s and e lines; I. M. Brightwell, 20, 2, R. W. Smith sur, 150 ft from s and e lines. J. E. Mabee Co., Arp, W. P. Brett, 40, 4, M. J. Pru sur, 185 ft from e and 607 ft from n line. Wm. H. Dunning, Fort Worth, C. Young, 10, 2, M. J. Pru sur, 330 ft from n and 250 ft from w line. Ward Oil Corp., Ardmore, Okla., F. J. Cox, 20, 2, R. H. Penney sur, 284 ft from s and 235 ft from e line. F. King, Kilgore, J. H. Scoggins, 50, 2, W. A. Elliott sur, 330 ft from s and 440 ft from w line. Florence Oil Co., Tyler, R. A. Motley, 25, 1, F. Cordova sur, 330 ft from n and e lines. Mid-Kansas Oil & Gas Co., Shreveport, La., C. L. Graham, 341, 3, P. Tipps sur, 330 ft from s and e lines; M. C. DeGuerin, 161, 4, Cadena sur, 330 ft from n and w lines; J. M. Price, 55, 6, J. B. Cadena sur, 175 ft from w and 210 ft from s line; M. A. Price, 201, 1, J. B. Cadena sur, 210 ft from n and 330 ft from w line; W. T. Grissom, 842, 10, W. D. Porter sur, 615 ft sw of No. 3; 11, 330 ft from n and 1090 ft from e line; 12, 737 ft w of No. 11; J. Lunsford, 70, 4, J. B. Cadena sur, 500 ft se of No. 1. Shell Pet. Corp., Dallas, J. H. Spivey, 102, 7, M. McCabe sur, 800 ft e of No. 1; R. Russell, 126, 10, R. W. Smith sur, 675 ft sw of No. 8; J. B. Watson, 100, 18, J. S. Caruthers sur, 330 ft from s and w lines. Humble Oil & Ref. Co., Houston, R. E. L. Silvey, B, 209, 8, T. J. Martin sur, 330 ft from n and e lines; C. W. Wilson, 96, 4, T. J. Martin sur, 330 ft from n and e lines; E. W. Naulls, 73, 3, T. J. Martin sur, 330 ft from n and 990 ft from e line; L. A. Barksdale, 76, 4, S. P. Hollingsworth sur, 330 ft from n and e lines; L. R. Reid, 70, 4, T. J. Martin sur, 330 ft from n and 380 ft from e line; C. W. Wilson, 96, 5, T. J. Martin sur, 330 ft from s and 990 ft from e line; R. E. L. Silvey, B, 209, 9, T. J. Martin sur, 330 ft from s and e lines. Sun Oil Co., Dallas, Scuyler, A, 42, 3, J. B. Cadena sur, 1230 ft w of No. 1. East Texas Ref. Co., Dallas, A. Givens, 22, 3, R. W. Smith sur, 150 ft from n and w lines. Stanolind Oil & Gas Co., Fort Worth, R. J. Burton, 154, 7, T. M. White sur, 330 ft from n and 1970 ft from w line; R. A. Moores, 46, 11, J. B. Cadena sur, 330 ft from s and e lines; R. A. Moores, 251, 13, J. B. Cadena sur, 1300 ft from n and 330 ft from e line; W. H. Siler, 949, 17, M. Walker sur, 1596 ft from n and 330 ft from w line; 16, 1200 ft from w and 330 ft from n line. Gulf Prod. Co., Houston, G. G. Turner, 312, 13, F. Cordova sur, 660 ft e of No. 10; C. O. Crim, 42, 3, Geo. Berry sur, 660 ft e of No. 4. Magnolia Pet. Co., Dallas, S. E. Brox, 84, 5, T. Grace sur, 330 ft from s and e lines. Sinclair-Prairie Oil Co., Fort Worth, W. H. McCord, 50, 5, J. B. Cadena sur, 892 ft from n and 182 ft from e line. W. D. Kinney, 579, 31, J. B. Cadena sur, 70 ft from n and 330 ft w line blk 31. Texas Co., Shreveport, La., Overton Bank, 160, 9, J. C. Smith sur, 934 ft from e and 330 ft from s line.

RAINS COUNTY — Lone Star Synd., St. Louis, Mo., J. S. Ownby, 160, 1, Alexander sur, 150 ft from s and 1100 ft from e line.

REFUGIO COUNTY — Gulf Prod. Co., Houston, J. O'Connor, 32404, 2, No. 40, CEP-I&M sur, 1200 ft from s and 1500 vs from se line.

SMITH COUNTY—R. I. Mayes, Henderson, E. A. Jackson, 25, 1, No. 446, E. Daniel sur, 330 ft from s and e lines; 2, 330 ft from n and e lines. Smith, Guerin & King, Tyler, S. S. Cook, 20, 2, J. Vargas sur, 180 ft from n and 660 ft from w line. Amalgamated Oil Co., Chicago, Ill., S. S. Cook, 35, 5, Jas. Jordan sur, 543 ft se of No. 3. Sentinel Oil Co., Tyler, Fee, 10, 2, J. Vargas sur, 252 ft from e and 421 ft from n line. Sinclair Prairie Oil Co., Fort Worth, A. S. Jarvis, A, 266, 17, J. Vargas sur, 330 ft from n and 2179 ft from e line. A. S. Jarvis, C. 256, 14, M. S. Coy sur, 1320 ft from n and 330 ft from w line.

STARR COUNTY—Los Olmos Oil & Gas Co., Harlingen, Kelsey-Bass, 2590, 17, S 7, Por. 75-76-77, 100 ft from w and 300 ft fr s line nw¼ se¼; 16, sec. 7, 300 ft from n and 629 ft from e line ne¼ nw¼; 18, sec. 6, 200 ft from w and 450 ft from n line se¼ of sw¼.

STEPHENS COUNTY — M. K. Kyman, Breckenridge, S. E. Beyer, 50, 1, S 14, B 6, T&P sur, 775 ft from e and 470 ft from s line.

SHACKELFORD COUNTY—Gilman & McMurray, Cisco, E. A. Jeter, 6, 1, S 14, B 11, T&P sur, 150 ft from n and e lines.

UPSHUR COUNTY — Galvez Oil Corp., Tulsa, Okla., Mrs. G. Moore, 51, 3, D. Ferguson sur, 330 ft from n and 373 ft from e line. Mudge Oil Co., Tyler, J. D. Richardson, A, 92, 4 D. Ferguson sur, 730 ft from e and 720 ft from s line. Louis Sikes, Tyler, H. W. Moyers, 25, 1, A. T. McGee sur, 318 ft from n and 330 ft from w line. Atlantic Oil Prod. Co., Dallas, D. A. Porter, 109, 7, G. W. Hooper sur, 330 ft from n and 200 ft from w line. Shell Pet. Corp., Dallas, C. C. Landers, 37, 3, G. W. Hooper sur, 330 ft from w and 220 ft from s line. Stanolind Oil & Gas Co., Fort Worth, J. J. Flewellen, A, 200, 9, M. Mann sur, 330 ft from n and 7265 ft from e line. Humble Oil & Refg. Co., Houston, J. M. Smith, 80, 5, J. M. Pineda sur, 435 ft from n and 1505 ft from e line. California Pet. Co., Shreveport, La., T. B. Stinchcomb, 87, 4, M. Mann sur, 350 ft from e and 1250 ft from s line. Magnolia Pet. Co., Dallas, O. F. Smith, 92, 5, H. H. Edwards sur, 660 ft e of No. 4. R. A. Adkins, 100, 10, G. W. Hooper sur, 330 ft from e and 825 ft from s line.

VAN ZANDT COUNTY—Pure Oil Co., Ft. Forth, N. R. Blake, 78, 3, J. Schmitz sur, 901 ft from n and 225 ft from e line.

WARD COUNTY—Eastland Oil Co., Ft. Worth, K. S. Green, 80, 1, S 4, B 34, H&TC sur, 300 ft from se corner.

WILLIAMSON COUNTY—G. L. Rowsey, Taylor, E. Streit, 100, 1, B 45, J. West.

WICHITA COUNTY—H. H. Spencer, Burkburnett, J. N. George, 60, 12, J. Walschmidt sur, 300 ft w of No. 10. G. W. Cooper, Wichita Falls, J. L. Waggoner, 43, 1, S 8, B 8, GH&H sur, 210 ft from n and 150 ft from e line.

NORTH and WEST TEXAS

Young County Field Has Larger Well Than Usual. Magnolia Plugs Panhandle Test That Was to Go Deep.

H. H. KING, *Staff Representative, Fort Worth, Texas*

Indications That Extensive Reserve Lies in Gray County

Pampa, Texas.—Recent oil completions in eastern Gray County on sparsely explored acreage give indications of a large potential oil area as being on tap for future developments. Isolation from the pipe line facilities of the most aggressive crude purchasing companies in the Panhandle district has made it somewhat difficult to obtain market relief. This market outlet handicap is expected to be partially relieved shortly as refiners in the district are looking about for crude supplies, and will be forced to extend their lines to more virgin areas to obtain same, as the district now has comparatively little prorated production.

Harry Foster and associates revived interest in the eastern Gray County area by completing L. H. Webb 1, located in SWc S½ NW Section 43, Block 25, H&GN survey, flowing 300 barrels natural daily against 40 pounds back pressure from lime horizons at 2520-25 and 2630-32 feet, with a surface elevation of 2656 feet. It is a north offset to a small well completed by Travis et al in late July, 1928. Mid-Kansas Oil & Gas Company's L. H. Webb 1, Section 61, extended production to the Gray-Wheeler County line in May with a 300 barrel flowing well after shot in same general horizon, and other recent completions have indicated that renewed interest in developing leases near the Gray-Wheeler County line has taken place lately.

The J. E. Williams tract in the LeFors area, Gray County, yielded two 1200-barrel wells upon the introduction of gas lift. Danciger Oil & Refining Company's Williams 2, Section 7, Block 1, ACH&B survey, flowed 75 barrels oil per hour natural for three hours from granite wash at 2705-34 feet, but sustained a rapid decline, then tested 55 barrels per hour on gas lift. The Texas Company's Williams 9, located in the same section, yielded 1200 barrels daily on gas lift from granite wash at 2664-74 and 2715-25 feet, with a total depth of 2738 feet.

Plugging orders have been issued by Magnolia Petroleum Company on its W. R. Wilson 1, a Parmer County wildcat centering on a block of about 70,000 acres, with the hole bottomed in blue shale, anhydrite and lime at 5830 feet, or 1946 feet below sea level. Top of anhydrite was logged at 1745 feet. This is one of the deepest tests in the greater Panhandle district, and was all set for the making of an unusually deep test had geological information continued favorable, as a new string of nine-inch casing was cemented with 327 sacks at 4445 feet.

Repressuring Planned for Young County Shallow Sand

Wichita Falls, Texas.—Surplus high pressure gas production offered by King Royalty Company, Osie Bratcher et al's deep producer on the C. L. Lowe tract in east central Young County is to be utilized in re-pressuring shallow oil sand in the Loving district. Lowe 1, located in Lot 15, Section 3412, has been completed after three light shots in lime at 3845-56 feet, with a total depth of 3890 feet, flowing 90 barrels oil daily, and about five million cubic feet of gas. About seven miles of six-inch line would be required to deliver this gas, which registers 1550 pounds rock pressure, to the Loving shallow area.

The Kisinger field, Young County, contributed a larger well than usual when Lloyd A. Long and associates' R. M. Williams 1-D, located in the northwest portion of the field, but on an inside location, flowed 450 barrels oil on 12-hour gauge from regular sand at 2484-2534 feet.

A bid for a new shallow oil strike in central Archer County was made when A. Z. Kouri et al's Mrs. C. A. Montgomery 1, which was intended for a Canyon lime horizon test, or 2300 feet, encountered oil sand at 1120-24 feet that yielded three barrels oil per hour on bailing test before the casing seat gave way. The owners of this wildcat have since re-set the 6⅝-inch pipe at 1118 feet, and cemented same. It is located 330 feet east and 2290 feet north of the southwest corner of Section 133, J. W. Harris sub-division, and 1½ miles northwest of Archer City. It is about 1½ miles southeast of nearest oil production, which is also in the 1100-foot sand. In the event of a commercial completion in the shallow sand, Kouri et al plan to sink a twin location in fulfilling their deep test contract with Deep Oil Development Company, which holds two offsets to the above well.

North and West Texas Field Developments

Completions

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
L. G. Bradstreet et al, S. Webb-Pruett 1	*	751
Cable Oil Co., J. W. Hasson 1	*	810
Fain-McGaha Oil Corp., Fee 2-C	155	1790
Gilliland-Resser et al, Walsh-Gulf 3	*	1422½
R. N. Hamilton et al, G. R. Decker 1	*	470
W. H. Holt et al, W. B. White 1	*	760
Geo. L. Pace et al, F. C. Green 6	55	1191
The Texas Co., Abercrombie 1-B	*	1507
White-Duncan et al, S. Webb-Pruett 2	450	702
COOKE COUNTY—		
W. B. Hamilton et al, Jacobs 4	125	1527
WICHITA COUNTY—		
H. B. Hill et al, W. W. Overby 2	*	1803
YOUNG COUNTY—		
J. C. Cunningham et al, G. Stewart 1	*	850
C. H. Fisher et al, J. W. Cox 1	*	603
Iron Mountain Oil Co., E. P. Tatum 8, Sec. 1908	25	665
King Royalty Co. et al, Larrimore 40, Sec. 2246	40	714
Kleiner & Riggs, Larrimore 11-A, Sec. 2246	25	716
Larrimore 13-A, Sec. 2246	*	730
L. A. Long et al, R. M. Williams 1-D	¶1-500	2524
A. J. Pepper et al, Finch 1, Sec. 40	*	730
C. Snoddy et al, Baldwin 1, Sec. 294	*	756
E. F. Stroube et al, W. T. Finch 1, Sec. 38	*	835
Wooten & Reed, E. Barrett 1	*	599
F. V. Henson 2, Sec. 1448	*	880

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
CARSON COUNTY—		
Skelly Oil Co., H. Schafer-West 17	165	3160
GRAY COUNTY—		
A. J. Brown et al, J. N. Duncan 1	*	3844
Danciger O&R Co., J. E. Williams 2	1200	2734
Graham-Cree & Hoover (Cambrian Oil Co), C. S. Barrett 1	225	3258
The Texas Co., J. E. Williams 9	1200	2738

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
HOWARD COUNTY—		
F-H-E Oil Co., L. C. Denman 1	75	2812
L. C. Harrison-The Texas Co., Denman 2	215	2850
PECOS COUNTY—		
Corvette Oil Corp., H. Monroe 11	25	505
Steed Oil Corp., (was Southern), Tippett-Humble 4	100	505
WARD COUNTY—		
Rector Oil Co., J. S. Smith 1	*	3602
Sid Richardson-Frank Kelsey & Magnolia, O'Brien 8	145	2790
O'Brien 9	100	2795
Rickford et al, Kate Green-Sun 1	30	2454

SOUTH TEXAS

Bob Rose Scores Again. New Gas Pool at Alta Mesa. Five Wildcats Between Seguin And Darst Creek.

EARL POST, *Staff Representative, San Antonio*

Oil and Strong Gas Show In Bee County Wildcat

San Antonio, Texas.—Texas Gulf Producing Company's Bee County wildcat, Webb Hearn 1, 5½ miles southeast of Beeville, in the P. T. Irrigation Company survey, has encountered a showing of oil along with strong gas pressure in a sand at 5948-5950 feet, and late last week was having difficulty controlling the gas for taking a core of the promising sand. Oil had showed on the ditch. Operation of mud pumps and manipulation of the blowout preventer on the well had failed after 10 hours to decrease the gas pressure.

This test previously encountered an important gas showing in sand topped at 4980 feet. It is located 1500 feet north and a little east of Woods 1 of Humble Oil & Refining Company and Hurlbut et al, which yielded considerable gas at 5077 feet.

Texas Gulf Producing Company has around 2000 acres of leases in the vicinity of this test, and most of the major companies operating in this portion of South Texas have acreage in the immediate territory.

Edge of Government Wells May Be Defined

San Antonio, Texas.—Definition of the western edge of the north extension of the Government Wells field, Duval County, apparently was certain as the result of two tests drilling gas sands.

Southwest Drilling Company's R. Wendt 1, southeast corner Section 43, one half-mile west of the Suttle producer, topped the sand at 2297 feet, drilled in several feet and is a large gasser spraying a small quantity of oil. Coffield et al's Wendt 1, a half mile due north of this well, also hit a gas sand about 2290 feet, but has not been completed.

Magnolia Petroleum Company's Gilbert Wendt 1, Survey 44, due north offset to the Suttle producer, is flowing 26 barrels an hour from the sand at 2319-24 feet.

In the main field, Duval Oil Corporation's Bishop 11 is a 10,000,000 cubic foot gasser from 2292-2335 feet. It is in Section 135. Humble Oil & Refining Company's White 5, Survey 58, also in the main field, is in the process of completion after drilling into the sand.

Owners of the Suttle discovery well in the north end of the field have formed San Diego Development Company to handle the development of this property. No locations have been made.

The deepest well in the county is Cole Petroleum Company's R. V. Benavides 75, Section 19, Block 8, Arispe survey, Cole field, which is coring at 6200 feet.

Announce Five Tests for Guadalupe County Area

San Antonio, Texas.—Five tests have been definitely announced for the new producing area recently discovered by Sal-Mark Oil Company between Seguin and Darst Creek, Guadalupe County.

A. W. Wormser has purchased the lease on four 40-acre tracts near the producer and will drill a well on each. Derricks are up for the first two tests. Pfallman 1, L. Ballinger survey, is 450 feet west of the Sal-Mar producer and Harris 1 is one half-mile northeast of the discovery well. The other locations have not been definitely announced by this operator.

George E. Smith took over a 10-acre tract in the Bearing farm and will drill immediately. It also is understood that additional exploitation will be done by Sal-Mar Oil Company.

The discovery test, A. H. Zunker 1, located 450 feet from the west line and 170 feet from the south line of the tract, showed production in the Austin chalk topped at 2022 feet. It has a total depth of 2042 feet. This well has been classed as a producer for the past 10 days, but no actual gauge has been made. There are 1100 barrels of storage on the lease, all of which has been filled. The well is opened one hour each day and flows around 11 barrels of sulphur oil through a small choke.

Farther east, Humble Oil & Refining Company and Sun Oil Company are attempting to join the main Darst Creek field and the southern extension discovered by John F. Camp. Sun Oil Company is swabbing Dowdy 2, Darst survey. The well topped the Edwards lime at 2510 feet and drilled to 2514 feet. Humble Oil & Refining Company is rigging up its Sue Denman 6-C, Arrington survey. Farther south, this company has completed Sue Denman 5-C as a small producer. It is two locations north of the 4-C, also a producer. The well topped the Edwards at 2509 feet, drilled to 2519 feet and is now making about 200 barrels.

In the Zobroski area, J. E. Clark's Clay 1 is a failure at 2657 feet in the Eagle Ford. This well topped the chalk at 2480 feet.

New Gas Pool Opened In Alta Mesa District

San Antonio, Texas.—Allen & Morris opened another South Texas gas field by completing Holbein-Wormser 2 in the Alta Mesa area of Brooks County. The well topped the sand at 1176 feet and drilled to 1190 feet, where it is making between 15,000,000 and 20,000,000 cubic feet open flow. It is showing 525 pounds rock pressure and 150 pounds working pressure on the tubing.

The exact location is 7525 feet from the east and 450 feet from the north line of the 962-acre tract in the Palo Blanco de Maguellas grant in the northwestern part of the county.

These operators drilled a test to this horizon several months ago, resulting in a gas blowout and ruination of the hole. The second well resulted in a producer. Derrick is being skidded to a new location for a third test, which will be to the deeper horizons.

King Gas Field, Nueces County, Is Extended

San Antonio, Texas.—Extension of 6000 feet southeast to the King gas field, Nueces County, was provided June 22 by Stanolind Oil & Gas Company. King 2, second well to be drilled in the field, is good for approximately 30,000,000 cubic feet open flow from a sand at 3914 feet to 3925 feet. It showed 250,000 cubic feet on one-eighth-inch choke, with 1600 pounds on the tubing and casing. On a half inch choke the well flowed 4,325,000 cubic feet, showing 1000 pounds on the tubing and 1300 pounds on the casing.

It is 660 feet from the south and east lines of Section 23, Richard King Farms, five miles north of Agua Dulce.

Gulf Coast Oil Company was preparing to complete Bessie Elder in a new sand for the Saxet field. The well, located in Block 29, H. B. Shepperd Survey, topped the sand at 2732 feet, drilled to 2740 feet, where a drill stem test showed 350 feet of oil in 10 minutes. The same company's Perkins and LaGasse 1, Section 26, is still running

wild, after having blown out of control on May 6.

A third attempt will be made to establish production in the 4800-foot sand. V. B. Hillegeist's McGregor 1, Survey 311, also in the Saxet field, got a sand from 4867-75 feet, which was highly saturated. Casing was set without drill stem test. Two other operators drilled wells to this horizon, each showing oil on drill stem test, but developing salt water when finally drilled in.

Bob Rose Scores Again As Oil Field Discoverer

San Antonio, Texas.—Bob Rose is acquiring the name of Caldwell County's champion wildcatter, for he has made the second discovery in that county this year.

The new well is the Bobrose Oil & Refining Company's Walker 1-B, 320 feet from the west line and 150 feet from the south line of the G. C. Walker 149-acre tract, exactly one mile north and slightly east of the Rose-Pierce crevice producer.

This well topped a sand in the Taylor marl at 1770 feet and cored in five feet when gas pressure stopped the mud. Six and five eighths-inch casing was run and cemented June 23. Considerable oil flowed into the slush pit, indicating a well probably as large as his former producer.

The Pierce well was completed from a crevice in the Austin chalk just below 2100 feet two months ago and has flowed more than 100,000 barrels.

The new test, if completed as a commercial producer, will open an entirely new pool. While on the same trend with the crevice production to the south, it is not likely that there will be a connection.

Two offsets are being drilled to production in the crevice area. Townes and Porter (formerly carried as Smilock Oil Company) was drilling Dunlap 1 at 1720 feet. It is west of north of production. Trinity Drillers, Inc., and M. O. Rayor, are preparing to spud in Dunlap 1, just northeast of production.

San Antonio, Texas.—Sun Oil Company's I. Tudyk 1, northwestern Wilson County, was late in the week drilling at 2237 feet, still in Taylor marl. It expected to pick up the chalk at most any time. This well is in the John Turner Survey on a unit block held by Magnolia Petroleum Company, Humble Oil & Refining Company, Empire Oil & Gas Company, and Sun Oil Company.

South Texas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BROOKS COUNTY—		
Allen & Morris, Holbein-Wormser 2, Alta Mesa, Palo Blanco de Maguellos grant, top sand 1176 ft, 525 lbs. rock pressure, 150 lbs. work pressure	¶20	1190
DUVAL COUNTY—		
Magnolia Pet. Co., Wendt 1, sur 44, n end Gov't Wells, top sand 2319 ft, flow on ⅜ choke, 26 bbls hr.	625	2324
Southwest Drlg. Co., Wendt 1, sec 43, n end Gov't Wells, top sand 2297 ft, gas spray little oil	¶15	2305
Duval Oil Corp., Bishop 11, sec 135, main Gov't Wells field, top sand 2292 ft, gasser spray oil	¶20	2335
GOLIAD COUNTY—		
Gulf Prod. Co., O'Conner 1, Morris sur	*	3800
GUADALUPE COUNTY—		
J. E. Clark et al, Clay 1, top chalk 2480 ft	*	2657
Humble O&R Co., Sue Denman 5-c, Arrington sur, Darst Creek, top Edwards 2509 ft	150	2519
NUECES COUNTY—		
Stanolind O&G Co., John F. Camp, King 2, sec 23, Richard King Farms, top sand 3914 ft, flow 4,325,000 cu ft ½ inch choke, 1000 lbs. on tubing, 1300 lbs. on cas, open flow	¶30	3926
STARR COUNTY—		
Hooks & Weaver, Kelsey Bass 6, sec 6,	10	475
Los Olmos O&G Co., Kelsey Bass 14, sec 7, top sand 460 ft	80	465
Kelsey Bass 15, sec 6, top sand 440 ft	12	448
WEBB COUNTY—		
McGinley Corp., A. S. Billings 1, Sec. 71, blk 1	*	2605
Phillip Rosenberg, Fee 2 (Laurel), Sec. 271, blk 10, top sand 2240 ft, 52 gravity oil	150	2244
ZAPATA COUNTY—		
Allied O&G Com. Gutierrez 27, share 4, Comitas Grant	150	1475
O. W. Killam, Medina 9, Share 34, Fansler Partition	75	1443
Hinnant 1, blk 45, Sur 613	*	1515

Wildcat Drilling Report

(Wells shut down not included)

ATASCOSA COUNTY—Atascosa Oil Corp., Martin 2, Diego Perez sur, to deepen from 2050 ft.

BANDERA COUNTY—F. A. Brown, R. B. Watson 1, sur 70, sp.

BASTROP COUNTY — Campbell & Tong, Yoast 8, Garcia sur, Yoast field, top serpentine 1464 ft, td 1530 ft, set csg, clean out.

BEE COUNTY—Humble O&R Co., Laura Thompson 1, Garrett Roche sur, dr 5845 ft. C. F. Nichols, J. P. Harris 1, Durango sur, Sec. 2, dr 2700 ft last report. Texas Gulf Prod. Co., 1500 ft n Wood 1, P. & T. Irrigation Co. sur, dr 5405 ft. The Texas Co., L. Gremmel 5, Jno. Pace sur, sw Pettus, 400 ft n Gremmel 1, coring 3885 ft. United Prod. Co., J. Scott 1, (dr by Texas Co.), J. Uranga sur, 1 mi s Normanna, dr 4545 ft.

BEXAR COUNTY — American Gas Co., Kennon 5, M. F. Rodriguez sur No. 4, Gas Ridge, fsh 2250 ft. Alamo Nat'l Gas Co., Coreth 1, Menchaca sur, Eckert pool, dr 150 ft. S. A. Blount et al, S. A. Land & Dev. Co. 1-A, Perez sur, fsh 940 ft. Davis, Noble & Bender, S. A. Farms 1, blk 81, dr below 1750 ft. Moore & Jauer, Holly Ellison 1, 4 mi w S. A., re-dr 2250 ft.

BROOKS COUNTY—Allen & Morris, Holbein-Wormser 1-A, Palo Blanco de Magullos Grant, sand 1176-90 ft, test 525 lbs. on dst in 10 min., set csg, dr in. M. P. Evans, J. M. Martinez 1, La Escantada sur, blk 11, dk. Otto Woods et al, Matilda Martinez 1, Longoria League, 25 mi sw Falfurrias, dr 300 ft.

CALDWELL COUNTY—Bobrose O. & R. Co., Inc., Walker 2 (1), S. Seal sur, Dunlap area, dr 925 ft. J. T. Callahan, W. H. Callahan 2-A, J. R. Miller sur, dk. Cole et al, Pierce 1, Seal sur, Dunlap area, ¼ mi ne Rose well, dk. Smilock Oil Co., Dunlap 1, Seal sur, Dunlap area, sp. George C. Sullivan (Shell) Plimsoll 1, M. W. Dennis sur, dr 3602 ft. Trinity Drlg. Inc., Dunlap 1, Seal sur, Dunlap area, ru. C. J. Webster O&G Co., W. W. McCrory 1-A, McNeil sur, replacement hole for McCrory 1, skid dk; C. T. Robertson, 1a mi sw McCrory well, John Neil sur, dk.

DE WITT COUNTY—Pat Armstrong, E. T. Clark 1, Jose Santos sur, dk, no later report. J. F. Richardson & Mid-States O&G Co., Taylor 1, D. Albrete sur, set 350 ft surface cas, re-dr. The Texas Co., McCrabb 1, near Thomaston, James Quinn sur, dr 4565 ft.

DUVAL COUNTY — A. R. Anderson, E. Riley 1, sec 44, Gov't Wells, lcn. Aztec O. & R. Co., Duval Co. Ranch Co. 1, sec 322, southwest Sarnosa, dr 1520 ft. R. B. Byrd, P. T. Wright 1, sur 101, dk. John F. Camp, Weil 2, sw No. 1, sur 57, dk. Clark & Cowden, Sutherland 1, sec, lcn. Coffield et al Wendt 1, sur 42, ½ mi w Suttle well, cor sand abt 2292 ft. Cole Pet. Co., Benavides 75, blk 8, sur 9, Mariano Arispe Grant, Cole-Bruni, coring 6065 ft. Frank Garvis, Schallert 3, sur 265, Palangana Salt Dome, dk. Duval Oil Corp., Bishop 12, sec 135, Gov't Wells, dk. Mag. Pet. Co., J. T. Johnson 1, sur 44, ne Suttle well, Gov't Wells, lcn. Harry E. Oliver, Wood-Welder 1, sec 213, dk. Pet. Finance Co., C. W. Hahl 1, sec 43, lcn. Plymouth Oil Co., A. Pharr 1, blk 48, San Andres Grant, sp. The Texas Co., Peters 1, sur 162, Kohler area, ru. E. R. Thomas, Wood-Welder 1, sur 383, 5 mi ne Rosita townsite, ru. Thomas & Tarver, Duval County Ranch Co. 1, sec 576, Sarnosa, lcn. Windsor Oil Co., L. L. Cummings 1, sur 44, Gov't Wells, dk.

GOLIAD COUNTY—Gulf Prod. Co., O'Conner 1, Morris sur, dr 3800 ft. Humble O&R Co., M. Fromme 1, G. W. Kersey sur, 3 mi n Goliad, dr 3765 ft. Slick-Seeligson, Allen 2, Obid Marshall sur, Slick pool, deepen from 4213 ft. Stanolind O&G Co. — John F. Camp, Pettus 4, Cabeza Creek, dr 4285 ft.

GONZALES COUNTY — Johnson-Mattocks O&G Co., James 1, M. A. Williams sur, td 3000 ft, dk crashed when attempts made to pull pipe, rebuild. A. J. Nassamer, M. Ramzinsky 1, Gonzales Rge. 5, Blk 12, lcn.

GUADALUPE COUNTY—John F. Camp et al, Delaney 1, Jesus Cantu sur, Zobroski district, lcn. J. E. Clark, et al, Clay 1, dr 2510 ft, top chalk 2480 ft. Humble O&R Co., Sue Denman 6-C, Darst Creek, ru. George E. Smith, Bearing 1, lcn. A. W. Wormser, Harris 1, ½ mi ne Salmar well, dk; Pfallman 1, 450 ft w prod, L. Ballinger sur, dk; 2 more locations made by this operator, but not officially announced.

JIM HOGG COUNTY—Clark & Cowden, E. Vela 1, sec 573, El Peyote Grant, sp. D. C. DeWitt 1, T. Gomez 1, sec 12, dr 1500 ft. R. L. Huckett et al, F. C. Guerra 1, sec 86, blk 6, dr 1825 ft. Randado Syndicate, Inc., Fee 1, sur 148, Randado townsite, ru.

JIM WELLS COUNTY—Carroll Brown et al, Doering 1, tract 4-A, Chas. Seffield farm lots, 5 mi s Alice, ru. F. A. Lain, C. Porter 1, tract 25, near Sandria, rebuild dk, td 90 ft. S. J. Sloane, G. W. Wade 1, C. Blanca sur, blk 6, dr 2980 ft.

KERR COUNTY — Eastland Oil Co., Jeff Love 1-B, sec 1594, fsh 630 ft.

LA SALLE COUNTY—Frank Clark, B. K. Coleman 1, No. 514, blk 15, re-dr 40 ft.

LIVE OAK COUNTY—Catlett & O'Neill, Miller 1, Wm. Cabbon sur, coring 2490 ft. Live Oak Pet. Co., J. M. Harper 1, J. Poitevant sur, dr 560 ft.

McMULLEN COUNTY—Jacob, Buzzini & Pickett, Inc., J. Jacob 4-A, sec 8, W. H. Jacob sur, Jacob pool, 800 ft nw 3-A, dr 810 ft; J. Jacob 1-B, sec 15, GH&H Ry. sur, 1¼ mi n and e discovery, coring 1060 ft; Jacob 1-C, sec 47, J. Poitevant sur, 2 mi nw field, lcn. Longhorn Oil Co. & American Gas Co., Lark 1, E. W. B. Scrugham sur, Calliham area, near Live Oak line, ru.

MEDINA COUNTY — R. Robertson Drlg.

Co., J. J. Little, BS&S Sur. No. 2, dr 1369 ft, lower Navarro.

NUECES COUNTY—Gulf Coast Oil Co., Perkins & LaGasse 1, H. B. Shepperd sur, Saxet area, tr 4556 ft, blew in wild from 1650 ft snd, crater around surface cas, flow 30,000 bbls sw, still wild; Bessie Elder 1, blk 29, H. P. Shepperd sur, sand 2732-40 ft, show 350 ft oil 10 min on dst, set cas, woc. V. G. Hillegeist, McGregor 1, sur 311, Saxet field, sand 4867-75 ft, set cas without dst.

REFUGIO COUNTY—Humble O&R Co., M. V. O'Conner 1, J. Keathing sur, McFadden area, dr 4862 ft; O'Conner 2, J. Keathing sur, dr 5115 ft. Edwin M. Jones, J. Mitchell 1-B, Refugio town lots, hard sand 9098-9114 ft, soft sand 9114-31 ft, set 5 3/16 inch cas, 100 ft screen to bottom, woc. Larcro Gas & Pet. Co., Strauch 5, lot 2, Refugio, td 5500 ft, set cas, woc. United Prod. Co., Fox 4, Hews & Brown sur, Fox area, td 6560 ft, plug back.

SAN PATRICIO COUNTY — Atlantic Oil Prod. Co., Welder 4, Welder area, dr 1300 ft.

STARR COUNTY—Allison & Roberts, Kelsey Bass 1, sec 6, sp. Coast O&G Co., Kelsey Bass 1, blk 52, show gas 704 ft; Olivarez 1, share 35, Por. 80, to sp. H. D. Carpenter, Doyno-Chatfield 1, Por. 80, share 21, to sp. Frank Darson, F. Madrigal 1, Por. 52, Share 15, sp. H. F. Griffith et al, Kelsey Bass 1, sec 11, dr below 1000 ft. P. F. Hoffman, Goodrich 1, blk 6, tract 5, Por. 80, lcn. Hooks and Weaver, Kelsey Bass 5, dk. R. E. Johnston, Seabury 1 (fee), tract 32, Por. 80, show oil abt 1700 ft, ream to test. King Pin Oil Co., Lewis 1, share 22, Por. 80, dk. Los Olmos O&G Co., Kelsey Bass 16, lcn; Kelsey Bass 17, sp; Kelsey Bass 18, sp. Frank LaBorde, Marrequin 1, tract 20, Por. 75, stand 620 ft. R. H. Pursley, Hinojosa 1, center blk 96, Rio Grande City, lcn. Traver & Nance, Seabury et al 1, tract 21, w ½ Por. 79, dr 1300 ft. H. C. Tarter, Gonzales 1, share 62, blk 1, Por. 71-72, lcn.

VICTORIA COUNTY — Cullen & West, Keeran 1, Keeran area, dr 5000 ft. Houston Oil Co., A. M. McFadden 1-A, IR No. 20 sur, dr 4706 ft. Humble O&R Co., Peter Rydolph 1, McFadden area, Kemper sur, sp. The Texas Co., A. M. McFadden 4, J. M. Rine sur, td 2240 ft, sidetracked 1161 ft, re-dr. Union Oil Co., Keeran 1, M. de Leon sur, Keeran area, dr 670 ft. Victoria Oil Co., Keeran 1, M. Leon sur, sand 5334-44 ft, test sw, pull liner and re-dr.

WEBB COUNTY—Blair & Livingston, J. M. Garcia 1, sur 11, ru. Frank Clark, Puig Bros. 1, La Albercas Grant, Aviator pool, lcn. French Oil Corp., R. Benavides 1-H, sur 659, West Cole, set cas 2495 ft. McGinley Corp., A. S. Billings, Sec. 71, blk 1, CCSG&RGNR sur, testing 2503 ft. Tompkins & Edwards, Ortiz 1, sec 1808, GC&SF sur, dr 1115 ft.

WILSON COUNTY — Sun Oil Co. et al, Tudyk 1, John Turner sur, unit blk, dr 1830 ft, Taylor.

ZAPATA COUNTY—Allied O&G Co., Gutierrez 28, share 4, Comitas Grant, sp. Ballard & Mercer, Flores 1, blk 27, Por. 37, dr 2530 ft. H. H. Coffield et al, S. Bustamante 2, Fansler sur No. 34, dr 800 ft; Bustamante 3, lcn. Joe Cullinan, Gutierrez 1, Charco de la India Grant, testing 1149 ft. Donohoo, Stevens & Brown, A. Garcia 1, Share A, Blk 7, Redondo Grant, dr 600 ft. Hunt & Polk, Ramirez 1, Share A, Villa Grant, dr 832 ft. O. W. Killam, Hinnant 1, blk 45, sur 613, Mirando Valley, testing 1515 ft; Medina 10, share 34, Comitas Grant, Escobas, ru. L. G. Smith, M. G. Martinez 1, blk 18, share B, W. R. Duke sur, ru (Smith secured 21 permits for wells in Charco Redondo). The Texas Co., Measles (Jennings) 9, Cerrito Blanco Grant, Jennings, sp. Windsor Oil Co., Martinez 1, blk 14, Charco Redondo Grant, dr 300 ft. Newton et al, R. Garza 2, sur 14, Martinez field, dk.

San Antonio, Texas.—Eastland Oil Company's Jeff Love 1-B, 600 feet east of No. 1, has a fishing job at 630 feet. The well is 1000 feet from the north line and 1340 feet from the west line of Section 1594, Kerr County. This is the third deep test to be drilled on the ranch.

GULF COASTAL FIELDS

Humble Gets More Conroe Acreage. 2000-Barrel Well at Mykawa. Pipe Line for Port Barre. Shoot Cheek for Location.

WM. V. GROSS, *Staff Representative, Houston, Texas*

Colorado County Wildcat Blows Out At 3800 Feet

Houston.—Interest was attracted to Colorado County as a result of a gas blow out June 19 in the Coyle-Concord Oil Company's Stewart Nelson 1, 10 miles east of Garwood in I. & G. N. Survey 43. The blowout occurred at 3800 feet, but a wild well was averted by pumping in heavy mud and baroid.

After being finally controlled, the well was cored to 3804 feet, where it was reamed down for a drill stem test. The core showed a gray loose sand, but carried no oil. A drill stem test failed when the test tool's seat gave away. A second test was being attempted. The well will be carried deeper if the test fails again.

The company has a solid block around this well of 16,000 acres, about 7000 acres of which is owned in fee.

V. F. Neuhaus' M. C. Barnett 1, Section 26, Obid K. Winn Survey, about five miles south of the town of Sheridan in the same county, was spudded June 21, and has set 250 feet of surface casing. It is to go to 4300 feet.

Location for Second Cheek Well Due Soon

Houston.—It probably will be early in July before location for Jack Schultz's second wildcat on the Cheek dome prospect in Jefferson County will be announced, due to the fact that Dr. E. G. Rosaire, former head of the Geophysical Research Corporation, is engaged in shooting the region with an improved instrument.

O. M. Todd 1, Schultz's first effort to obtain commercial production at Cheek dome, recently was abandoned at 6906 feet after having encountered showings sufficiently important to warrant, in the operator's opinion, a second test.

Mykawa Well Yields 2000 Barrels Flush

Houston.—Gulf Production Company Corporation rather surprised themselves, according to official confessions, when Minnetex 2 at Mykawa was completed June 22 for 2000 barrels initial production through a three eighths-inch choke, pressure on which was 300 pounds.

The well was drilled to 4854 feet, the location being Humble Oil & Refining Company's old Minnetex 5, located before this company turned Mykawa over to Flannigan.

Mykawa was discovered in 1928 by H. C. Cockburn with torsion balance. Considerable evidence of gas has been found at 4100-4200 feet, roughtly, but efforts to obtain consistent production have not been generally successful.

Two Completions Due Soon at Rabb Ridge

Houston.—Gulf Production Company and Humble Oil & Refining Company were setting a strainer in George B-1 at Rabb Ridge, Fort Bend County, June 24, preparatory to bringing the well in from a sand topped at 5250 feet. This well, which probably will be completed before the close of June, will precede completion of the same operators' George 4 by a few days. The latter test is preparing to make a drill stem test at 5120 feet.

According to latest production estimates, the daily average yield of Rabb Ridge is 12,300 barrels.

Barbers Hill to Continue Active Throughout July

Houston.—With 13 drilling wells, Barbers Hill field will continue active throughout July, with prospects of adding nearly enough flush oil to maintain the present daily average production of about 19,500 barrels.

Last week's initial of 5000 for the field came from three completions. Texas Gulf Producing Company completed two wells: Kirby B-10 was a 1500-barrel well at 4376 feet, while Ilfrey 3 was a 2500-barrel well at 4460 feet. Both produced pipe line quality oil of better than 25 gravity. The other completion was Sun Oil Company's Wilburn 14, which yielded 1000 barrels at 4381 feet.

Texas Gulf Producing Company, the largest operator in the field, this week mapped out a program for development to be done during the remainder of the year.

New Bit Being Tried Out At West Columbia

Houston.—Hogg et al are trying out a new type of pneumatic, or "air-hammer" type bit on Hogg 1, West Columbia field, Brazoria County. In laboratory tests the bit has proven theoretically sound, but the syndicate backing its development is ironing out the kinks before putting the tool on the market.

Build Pipe Line From Port Barre to Mississippi River

Houston.—The Texas Pipe Line Company is proceeding with construction of a 46-mile combination four-inch and six-inch coupled oil pipe line from the Port Barre field, St. Landry Parish, Southern Louisiana, to a point on the west bank of the Mississippi River across from Baton Rouge. Shipping of materials for the project was started last week.

Apex Construction Company (Williams Brothers), Tulsa, and Baton Rouge, has the contract for building the line. The Texas Company is affiliated and is a leading producer in the Port Barre salt dome field. Facilities will be provided at the river terminus of the new pipe line for loading the oil on boats.

Houston.—Four wells drilling below 3500 feet at High Island, Galveston County, assure completions for the field during the next fortnight. All four are Yount-Lee Oil Company operations, and the first due to be completed is Cade 28, coring below 5500 feet at last reports.

Houston. — Bailey-Shell Petroleum Corporation's location for K. T. Williams 1, wildcat test in the Millikan Survey of Brazos County, has been abandoned, no derrick having been erected.

San Antonio, Texas.—Campbell & Tong apparently have a producer in A. Yoast 8, 300 feet southeast of No. 7 in the A. Garcia Survey, Yoast pool, Bastrop County. It topped the serpentine at 1464 feet, drilled to 1530 feet and set casing. It is now being cleaned out preparatory to completion.

Conroe Field Is Liveliest Spot in Gulf Coast Area

Houston.—With six active drilling wells underway, derricks and rigs on eight additional locations, and with Humble Oil & Refining Company contracting a drilling obligation which will throw into play acreage southeast of the discovery well held by those playing the field for a salt dome, Conroe field certainly will be the liveliest spot in the Texas Gulf Coast for several months to come.

Possibly the most important development of the week, insofar as effects of early drilling trends are concerned, was a deal whereby Humble Oil & Refining Company leased the south 229 acres of Bevier and Dobbins' Ransom House Survey holdings. This lease, located two miles southeast of production at Conroe, is flanked on the west by holdings of George M. Bevier and J. D. Cooper, on the east by The Texas Company's 300-acre W. S. Rhodes lease, on the northeast by Hill and Hill's 126-acre Moorehead lease. The lease called for a drilling obligation in the northwest corner, 330 feet from each line. The north 100 acres of the Bevier and Dobbins 329-acre tract is held by Houston Oil Company and Heep Oil Corporation, a partnership which already has completed three wells in the area, two of which were producers. Humble Oil & Refining Company's location will call for an offset.

Effect of Lease Deals

Humble Oil & Refining Company's last two major lease deals in the area indicate that organization places considerable importance on possibilities of a southeasterly trend to production. Should this theory be substantiated by development, the trend will run into an area split up in leases small enough to call for a heavy drilling campaign, regardless of the emergency ruling of the railroad commission on spacing of wells which calls for 660 feet between locations, with no location nearer than 330 feet to a property line, and with one well to a city block provided the productive limits extend as far as Conroe.

Official statements from company executives, majors and independents, regarding their plans, or pending lease deals, or pipe line projects with reference to Conroe field come forth about as readily as a crooked wisdom tooth, for very much the same reason that a poker player does not reveal his hole card until all bets have been made. That is why, in the absence of enough geological data to prognosticate with any semblance of intelligence which way things will run at Conroe, the rumblings of the grapevine are most intriguing.

For example, the grapevine murmurs that Atlantic Oil Producing Company is negotiating for the property of Houston Oil Company and Heep Oil Corporation on a deferred payment plan, similar to that by which Humble Oil & Refining Company obtained the option on Strake Oil Corporation holdings. Pending the date when the option is exercised or given up, negotiations have been launched for handling of this oil to the coast by a major carrier, it is reported. Also it is understood all parties concerned are agreeable to moving oil to the coast by a common carrier for the time being. In other words, if Atlantic Oil Producing Company closes with Heep-Houston there is a probability that Conroe will attract a second trunk line outlet which will act as common carrier. The grapevine further murmurs the common carrier dark horse will not build into Conroe unless the trade is made.

Value of the Oil

Looking at it from the value to the refiner, indications are Conroe crude will bring at least as good a price as East Texas oil, or 98 cents per barrel. Analysis of a drill stem test sample, which was thought not to be a fair sample of the crude, showed the Conroe oil to be 34 gravity. This 34 gravity sample cut 23.5 per cent gasoline and eight per cent kerosene. A later sample, now in the hands of analysts, tested 38 gravity. This later sample, thought to be more representative of the crude being produced in the field, is expected to cut 33 per cent gasoline and 10 or 12 per cent kerosene and to have a higher octane rating than gasoline from East Texas crude, the rating of which is about 50. That the Conroe crude has a napthene base makes it a more valuable cracking stock than the paraffin base oil of East Texas. Preliminary tests indicate Conroe crude will approximate zero on the cold test, whereas East Texas crude cold tests around 70. Supposition of likelihood that Conroe crude will be posted at 98 cents or more is based on the indicated value thereof and does not take into consideration the transportation advantage to tidewater. In this connection, East Texas tariff is from 30 to 32½ cents per barrel, trunk line and gathering charges included. Conroe tariff to the coast for the same service possibly will not exceed 25 cents, from 20 to 22½ cents being generally considerad a fair rate.

Present Activity

While the status of drilling wells June 24 at Conroe indicated there would

be no completions until July, four wells and one workover could be completed before the close of next month, the workover being Heep Oil Corporation's Cartwright 1, northeast outpost which will be deepened about 50 feet below its original depth of 5078 feet.

Heep Oil Corporation's George Hamman 1, south of southwest of the discovery well about a mile, has set surface casing at 860 feet; Brent 1, northeast of the discovery well 2½ miles, has spudded and will penetrate to surface casing setting levels rapidly. Rowe and Flowers' Varner Realty Company 1, three miles west of northwest of the discovery well, was drilling in gumbo at 2961 feet June 24, while their Mrs. M. H. Alexander 1, nearly three quarters of a mile east of northeast of the discovery well, had shut down for drill pipe at 2140 feet.

The above wells slated for completion in July will help define possibilities of the field south, northeast and west, leaving Gieseke and Craft's well, several miles to the southeast, about 3000 feet to go before it reaches depths at which previous producers have been completed at Conroe.

Projected development includes another well rigged up by Heep on the Cartwright acreage; a derrick for Strake Oil Corporation's South Texas Development Company 3 in the Theodore Slade Survey; Alpha Oil Company's rig in the lower part of the Alexander McCown Survey; C. C. Steinberger and Heep Oil Corporation's rig on Steinberger's acreage in the John Davis Survey; Edwin Falvey et al's derrick on the McComb tract in the Lemuel Smith Survey, and Plummer and McDaniel's rig on a 60-acre tract in the Slade Survey. Those of the projected wells which are rigged up are expected to spud during the week beginning June 26.

Texas Gulf Coast Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
HULL FIELD—		
Republic Prod. Co., Dolbear 63-A	1800	2623
HUMBLE FIELD—		
Sun Oil Co., River 55,	¶15-30	1373
CHEEK DOME (Jefferson County)—		
Jack Schultz, O. M. Todd 1	*	6906
MARKHAM—		
C. B. Hamill, Elkins 2	*	6044
MOSS BLUFF—		
Texas Gulf Sulphur Co., Harrison 7	*	942
MYKAWA—		
Crown Central Pet. Corp. & Framar Oil & Gas Co., Minnetex 2	2000	4854
ORANGE FIELD—		
Tillery Oil Co., Tasco 1	40	3348
RABB RIDGE—		
Gulf Prod. Co.-Humble O&R Co., F. I. Booth Est. 1	1440	5158
BARBERS HILL FIELD—		
Texas Gulf Producing Co., Kirby B-10	1500	4376
Ilfrey 3	2500	4460

Wildcat Drilling Report

(Wells shut down not included)

AUSTIN COUNTY — Humble O&R Co., McCasland 2, Raccoon Bend, td 3458 ft, set 7 inch cas at 3430 ft, woc. Great Southern Drlg. Co., F. Schovajsa 1, 3 mi s Bleiblerville, dr sn and bldrs 1628 ft. Yegua Oil Corp., Pomacal 18, Brenham dome, lcn in S. M. Williams sur.

BRAZORIA COUNTY—Quintette Oil Co., Levitt 2, Jno. Peske sur, core sndy shale below 2165 ft. W. D. Southerland et al, C. W. Chapman 1, dr gbo and sn 2730 ft. Hogg et al, Hogg 1, West Columbia, dr sn and lime, 3220 ft.

BRAZOS COUNTY — Bailey-Shell Pet. Corp., K. T. Williams 1, A. Millikan sur, lcn abn.

BURLESON COUNTY—Ball Knob Oil Co., Polansky 1, 6 mi w Lyons, dr 400 ft. E. M. Bracey, Bracey 1, Somerville, dr 300 ft. Sanson Oil & Gas Co., Dockworth & Gilly 1, se cor of county, dr w sn 2510 ft. M. O. T. Oil Co., Rogers 1, T. B. Reese sur, core gr sndy shale, 2710 ft.

CHAMBERS COUNTY (Barbers Hill)—McAlbert Oil Co., Wilburn 3, td 5215 ft, pumping. Mills Bennett, Barber A-4, dr salt 2911 ft; Kirby 3, dr salt 1880 ft; J. B. Means 4, dr salt, 2460 ft. Rio Bravo Oil Co., A. N. Fisher 3, dr rk, 4223 ft. Sinclair-Prairie Oil Co., Wilburn 8, dr shale 4766 ft. Sun Oil Co., Higgins 3, dr rk 1290 ft; Wilburn 14, prep to complete at 4381 ft. Superior Oil Co., Ilfrey 1, dr in sndy shale and oil sn at 5272 ft. The Texas Co., Wilburn 6, dr sn and sh 4131 ft. Texas Gulf Producing Co., Barber A-7, td 5830 ft, prep to pump; Ilfrey 3, prep to complete at 4460 ft; Kirby B-10, waiting on scr, td in sn shwg oil 4376 ft; Kirby H-10, ru; Cornelia Barber 2, dr sn and li, 1305 ft.

FORT BEND COUNTY—Humble O&R Co. & Gulf Prod. Co., Lockwood 4, lcn 1000 ft e of Lockwood 3; Lockwood & Sharp 4-A, Rabb Ridge, ru; Lockwood & Sharp 5-A, dr 2306 ft in sndy shale; Lockwood & Sharp 6-A, lcn 1000 ft w and 300 ft s of ne c L&S 496½-ac tr, Jno. Rabb sur; J. H. P. Davis 2, Rabb Ridge, ru; George B-1, Rabb Ridge, oil sn at 5250 ft; George 4, dr shale 4665 ft; A. E. Myers 3, Rabb Ridge, dr gbo 2100 ft. The Texas Co., Wolters 1, Rabb Ridge, dr shale and li 4175 ft. Stone & Wyman, Beard 1, dr sn 1600 ft. Gulf Prod. Co., Moore 33, Orchard dome, lcn 560 ft n and 560 ft w of Moore 31.

GALVESTON COUNTY—H. H. Stevenson, E. Lobitt 1, 3 mi sw Dickinson, dr 400 ft. Yount Lee Oil Co., Cade 28, High Island, core sn and shale 5505 ft; Cade 29, dr hd sn 4530 ft; Broussard & Orme 2, dr 2060 ft; Nellie League 2, High Island, dr hd sn and li 3588 ft; Smith 11, High Island, dr 3640 ft.

GRIMES COUNTY—J. C. Barnett et al, G. W. Dodd 1, Timothy Jones sur, prep to resume dr at **1823 ft.**

HARRIS COUNTY—Luckel et al, Wilson & Hunt 1, Elena Farms, set surf cas at 38 ft. H. D. Morse et al, Schweinle 1, Hufsmith, dk in Wm. White sur. Gulf Prod. Co., Taylor 35, Pierce Junction, dk. Rio Bravo Oil Co., Settegast A-24, Pierce Junction, prep to set 36 ft of scr. Cullen & West, Burt 4, Humble, dr 5144 ft, had slight show oil 4972-5000 ft. J. D. Clay, Bender 1, Humble, dr rk 1190 ft. Sun Oil Co., Bender 26, Humble, dr sh 4225 ft; River 56, Humble, oil sn 1285-1305 ft, cmtd 7 inch cas at 1230 ft. The Texas Co., House 26, Humble, dr rk 2445 ft. Jno. Deering, Warren 1, Hockley, lcn 100 ft s of The Texas Co.'s Warren 3 in Theo. Snell sur.

JEFFERSON COUNTY—Hext Drlg. Co., Flournoy 1, 4 mi se Jasper, dr sndy sh 4335 ft. Rio Neches Oil Co., Boykin 3-A, dr sndy sh 920 ft. Elam & Denny, Broussard 2, 2 mi w Sabine, dr sn and grav 1200 ft.

LIBERTY COUNTY—Eclipse Oil Co., Barrow 2, Hull, dr shale 4875 ft. Healey & Southerland, Finley 1, Hull, dr cavity 834 ft. Republic Prod. Co., Dolbear 55A, dr hd sn 1750 ft; Dolbear 146, Hull, lcn.

MATAGORDA COUNTY—P. S. Griffith, L. Baer 2, Big Hill, dr blue gbo 2430 ft. United N. & S. Dev. Co., Stoddard 1, Buckeye Townsite, pulling scr to reset or dr dpr, td 7831 ft. Julia Oil Co., Gray 2, Markham, shwg oil 3615-23 ft. Southern Drillers & Prod. Corp., Hudson 1, Markham, dr shale 2810 ft. The Texas Co., TTPL Co. Fee 1, Markham, dr sh 3520 ft. Sheppards Mott Dev. Co., Hawkins 1, Sheppards Mott, set 12½ inch at 500 ft, woc.

MONTGOMERY COUNTY — Heep Oil Corp., Geo. Hamman 1, dr 300 ft; Brent 1, lcn; Cartwright 2, dk; G. W. Strake, So. Tex. Dev. Co., 3, lcn. Gholson & Rycade, Alliance Tr. Co. 1, 5 mi se Montgomery, core near 3000 ft. Rowe & Flowers, Varner Realty Co. 1, Beach area, dr sh 2720 ft; M. H. Alexander 1, dr gbo 2110 ft. C. C. Steinberger, Steinberger 1, dk. Edwin Falvey et al, W. P. McComb et al 1, dk. Gieseke & Craft, So. Tex. Dev. Co. 1, dr 1000 ft. Plummer & McDaniels So. Tex. Dev. Co. 1, lcn in 60-ac tr in Theo. Slade sur.

NEWTON COUNTY—L. A. James, Price & Bevil 1, 4 mi ne Bleakwood, sd at 40 ft. Sun Oil Co., Peavey-Moore Lbr. Co. 1, lcn in F. Stover No. 4 sur.

ORANGE COUNTY—Ala-Tex Oil Co., Reed 1, 2½ mi se Orange, dr sndy sh 4700 ft. Orange Pet. Co., Chesson 13, Orange, dr rk 2830 ft. Sun Oil Co., Belile 1, Orange, dr sn & gbo 4199 ft. The Texas Co., W. H. Starck 3, Port Neches, dr 2771 ft.

POLK COUNTY—Collins & Plummer, J. M. Collins 2, Aug. Viesca sur, dr 3140 ft.

SAN JACINTO COUNTY — Seven Wells Corp., Foster Lbr. Co. 1, 2 mi sw Shepherd, dr shale 4716 ft.

Louisiana Gulf Coast Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
EAST HACKBERRY—		
Yount Lee Oil Co., Kelso Bayou 51	*	2858
EDGERLY—		
Emerson Moore, Hunter B-1	30	4060
JEFFERSON ISLAND—		
Jefferson Lake Oil Co., Lake Peigneur 34	*	790

Wildcat Drilling Report

(Wells shut down not included)

ACADIA PARISH—Reliable Oil Co., Rawson Haber 1, Evangeline, dr sn and sh 1930 ft.

CALCASIEU PARISH—Magnolia Pet. Co., Bert Wait 2, Iowa, prep to spd. Union Sulphur Co., Moss 3, Lockport, cmtd 9¾ inch cas at 4824 ft, shwg oil at 4835 ft; Fee 769, Sulphur, pb to 5064 ft; Fee 771, set 6⅝ cas at 5146 ft, shwg oil at 5161 ft.

CAMERON PARISH — Brownie Babette Oil Co., R. A. Moore 1, Black Bayou, dr shale 6130 ft. Jim Oil Co., Erwin 7, E. Hackberry, dr shale 2275 ft. Magnolia Pet. Corp., Cameron Meadows 2, Cameron Meadows, in sn shwg oil at 5273 ft. Moon Oil Co., Breaux 1, E. Hackberry, dr 2203 ft. Sul Tex Oil Co., Dorion 1, E. Hackberry, new hole, sdtr at 996 ft, after fsh job at 4328 ft, dr 1620 ft. Union Sulphur Co., Pure Oil 1, E. Hackberry, dr shale 8145 ft; Humble 2, E. Hackberry, dr sh and li 5261 ft. The Texas Co., State E. Hackberry 9, ru. Yount Lee Oil Co., State School Land 11, Old Hackberry, dr 3200 ft; Lacy C-4, Sec. 27-12s-10w, lcn.

IBERIA PARISH—Warrick Oil Corp., Bernard 1, Little Bayou, stg at 2988 ft. Jefferson Lake Oil Co., Lake Peigneur 37, Jefferson Lake, lcn.

IBERVILLE PARISH—Standard Oil Co. of La., Myrtle Grove-Wilbert 2, Bayou Choctaw, dr 4020 ft.

LA FOURCHE PARISH—The Texas Co., L. L. E. Leesville 5, Leesville, dr 400 ft.

PLAQUEMINE PARISH—Freeport Sulphur Co., Cockrell Moran 1, Lake Washington dome, pb to 1160 ft, cmtd 11-inch cas at 1120 ft, woc; Lake Grand Ecaille 1, lcn; Lake Grand Ecaille 2, lcn.

TERREBONNE PARISH—The Texas Co., State Lake Barre 14, Lake Barre, dr 2250 ft.

VERMILION PARISH—Pure Oil Co., Mulvey Irrig. Co. 1, Gueydan, bldg dk.

LOUISIANA FIELDS

Zwolle Extended Another Eighth Eastward While New Starts Are Falling Off. Gas Quotas Announced.

Staff Correspondent, Shreveport, La.

DeSoto Parish Wildcat Test Shows Small Gas Flow

Shreveport, La.—Standard Oil Company of Louisiana's Sutherlin 1, SE SW Section 19-12-14, DeSoto Parish, on the north edge of the Spider structure, showed an estimated three million cubic feet of gas when tested at 2784 feet and will be drilled deeper. Six and five-eighths-inch casing had been cemented at 2735 feet. Elevation is 248 feet. The formation is Tokio and the well is a wildcat.

New Work at Zwolle Falls Off; One Well Completed

Shreveport, La.—New drilling in Zwolle showed a drop during the week ending June 22, when only seven new locations were announced, as compared to 16 the week ending June 15. All of the tests were for the two centers of production, one in the extreme southeast part of the field in Sections 14 and 15-7-11, and the others for an area southwest of the Zwolle townsite in Sections 1-, 2-, 3-and 4-7-13.

Zwolle had one completion during the week, W. F. Lacey's McNeely 3, Section 14-7-11, flowing 150 barrels of oil daily from chalk at 2508 feet. Ben Merritt, Trustee's, Nulton 1, SW NE Section 3-7-13, offset on three sides by flowing wells, came in Wednesday and late in the day was flowing an estimated 200 barrels of oil daily through five-eighths-inch choke. Total depth is 2390 feet; marl was topped at 2035 feet, where six-inch casing was set.

Broderick & Calvert's Costullo 1, SE NW Section 2-7-14, 2½ miles north of Blue Lake (West Zwolle) production, which topped Zwolle marl at 1956 feet (elevation 174 feet), which was more than 100 feet higher than this contact at Blue Lake, tested dry at 2392 feet and at 2415 feet in Zwolle chalk, is shut down.

R. L. Gay, Trustee's, Long-Bell Lumber Company A-1, NW NW Section 10-8-13, five miles north of Zwolle, on June 22 was coring lime at 5925 feet.

Shreveport.—Production in the southeast Zwolle field was extended an eighth of a mile eastward June 22 when C. H. Tuttle's Byrd 2, NW NW Section 7-7-10, came in flowing wide open at an estimated 1000 barrels of oil daily, from chalk at 2460 feet. Six-inch casing was cemented at 2430 feet, top of the chalk.

In the southwest offshoot of the Zwolle townsite pool, Ben Merrit, Trustee's Nulton 1, SW NE Section 3-7-13, Thursday, June 23, was flowing through a five-eighths-inch choke at an estimated rate of 200 barrels of oil daily, from a break in the Zwolle chalk at 2390 feet. Six-inch casing was cemented at 2035 feet at the contact of the Zwolle marl, which overlies the chalk. It is offset on three sides by flowing wells.

Beauregard Parish Test Plans Shallow Exploration

Shreveport, La.—De Ridder Development Company, which has blocked approximately 15,000 acres in Beauregard Parish, during the last week spudded McMahon 1, NE NW Section 33-2s-9w, for a shallow test, probably to about 1500 feet.

New Quotas Given Monroe And Richland After Gauge

Shreveport, La. — Withdrawal allowables for the 838 producing gassers in the Monroe field embracing parts of Morehouse, Ouachita and Union Parishes, and from the 249 gas producers in the Richland field, have just been announced by Dr. J. A. Shaw, director of the minerals division of the Louisiana Conservation Commission. The allowables are based on the recently completed semi-annual re-gauge.

The 168-hour withdrawal quota for the Monroe field is 8,307,751,000 cubic feet, based on a daily open flow capacity of the field of 4,478,497,000 cubic feet. The total rock pressure of the 838 wells in Monroe is shown by the re-gauge to be 443,589 pounds, or slightly over 529 pounds per well.

Richland's 168-hour withdrawal quota for 249 gassers is 5,547,562,000 cubic feet, based on an open flow daily capacity of 3,991,843,000 cubic feet. The total rock pressure of the 249 Richland wells is 100,061 pounds, or slightly over 401 pounds per well.

North Louisiana Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CADDO PARISH—		
Simplex Oil Co., Youree-Glassell 1, 13-20-15	90	2272
Pyramid O&G Co., Breard 2, 9-18-16	¶1	2755
SABINE PARISH (Zwolle)—		
W. F. Lacey, McNeely 3, 14-7-11	150	2508
H. W. Perritt, Brown Lbr. Co. 1, 6-7-10	*	2763
RICHLAND PARISH—		
National Gas Co., Singletary 1, 20-18-7e	†	2515

New Operations

BIENVILLE PARISH—Black Lake Development Co., Arcadia, Holston 1, 17-18n-6w, 600 ft w 100 ft s ne cor se¼ se¼ sec.

CALCASIEU PARISH—Mag. Pet. Co., Lake Charles, B. T. Wait 2, 12-9s-7w, 330 ft s and w ne cor s½ se¼ sec.

CAMERON PARISH—Yount-Lee Oil Co., Inc., Beaumont, Lacy C-4, 27-12s-10w, 981 ft e 1137 ft s nw cor sec.

SABINE PARISH—Lanier et al, Shreveport, Steinharst 1, 3-7n-13w, 330 ft n and w se cor. nw¼ sec. E. M. Thommassen, Tyler, Travis 1, 12-7n-11w, 350 ft e 450 ft n sw cor sec. H. D. Macdonald, Shreveport, T. L. Andries 1, 15-7n-11w, 180 ft e 150 ft n sw cor nw¼ se¼ sec. Lion Oil & Refg. Co., ElDorado, Ark., T. Laroux 1, 3-7n-13w, 330 ft e and s s½ ne¼ se¼ sec. Pelican Nat. Gas Co., Shreveport, L.L.L. Lbr. Co., 14, 8-7n-11w, 330 ft s and e nw cor nw¼ ne¼ sec. Denagail Oil & Gas Co., Oklahoma City, Okla., Nulton G-2, 3-7n-13w, 330 ft n and e sw cor ne¼ ne¼ sec. Wurtsbaugh & Terrans, Peterson 1, 26-8n-13w, 330 ft n and w se cor sw¼ se¼. A. A. Trammell, Tr., Hill 1, 32-8n-11w, 330 ft s and w ne cor se¼ se¼ sec. A. A. Trammell, Tr., H. Sepulvedo 1, 5-7n-13w, 330 ft n and w se cor. nw¼ ne¼ sec.

IBERIA PARISH—Jefferson Lake Oil Co., Inc., Lake Peigner, 37, 12s-5e, 150 ft s 3° 50′ e of well 19.

PLAQUEMINE PARISH—Freeport Sulphur Co., Lake Grande Ecaile 1, 21s-26e, approx. 10,573 ft n 4420 ft w ne cor; 2, 21s-26e, approx. 11,193 ft n 1253 ft w ne cor sec.

UNION PARISH — Southern Carbon Co., Inc., Fee 60, 20-20n-4e, 36 ft w 482 ft s n½ n¼ cor sec.

VERMILLION PARISH — Pure Oil Co., Houston, Mulvey 1, 34-11s-11w, 1170.9 ft s 2252.5 ft e from nw cor. sec.

Wildcat Drilling Report

(Wells shut down not included)

BEAUREGARD PARISH—De Ridder Dev. Co., McMahon 1, ne nw 33-2s-9w, sp.

BIENVILLE PARISH—Black Lake Dev. Co., Frank Halston 1, se se 17-18-16, dr shale 1775 ft.

CADDO PARISH—Jno. W. Moffitt, Cynosure 1, 36-18-15, lcn. Louanna O&G Co., Cushman 1, sw sw 33-19-16, rig.

CALDWELL PARISH—Carter Bell et al, A. R. Taylor 1, 17-14-4e, dr shale 3560 ft.

DE SOTO PARISH—J. M. Bridges, Joiner 1, nw nw 33-11-12, dk. E. T. Oakes, Johnson 1, 30-13-15, core 3675 ft. De Soto Dev. Co., Nickie 1, 7-13-12, dk. Donly Bros., H. Smith 1, 31-14-15, td 2295 ft. Standard Oil Co. of La., Sutherlin 1, se sw 19-12-14, elev 248 ft, 6⅝ cas 2735 ft, tested est 3 mil ft gas at 2784 ft, arr deepen. S. A. Guy, Dowling 1, 31-14-14, top AC 1650 ft, dr chalk 2160 ft. Coker et al, Boone 1, sw nw 12-10-11, rig.

GRANT PARISH — Security Pet. Corp., Swope 1, 16-9-1e, wosr, td 1585 ft. Robichaux et al, Bradford 1, 16-9-1e, rig.

NATCHITOCHES PARISH—Sabine Bayou Dev. Co., Bodcaw Lbr. Co. 1, sw sw 9-12-5w, rig. Southland Drilling Co., Ross Olive 1, 10-9-10,coring below 2000 ft. Dr. H. S. Ger-

son, Smith 1, 11-10-8w, arr res, td 1875 ft; Smith 3, 6-10-8w, lcn. H. W. Perritt, Brown Lbr. Co. 2, 29-8-9, dr shale 2424 ft; Cook 1, 3-8-9, 6⅝ cas 2467 ft, dry at 2482 ft, top chalk 2500 ft, dr chalk 2530 ft. Rains et al, Beard 1, 8-8-10, dk. Texana Oil Co., Clarke-Morse 1, 23-5-6w, sr, td 2504 ft.

RED RIVER PARISH—C. F. Davis, Peterson 1, sw nw 12-14-11, dk pat. Petroleum Ind., Inc., Madden 1, sw ne 21-14-10, sp.

SABINE PARISH—J. J. Kean, Belton 1, 31-9-13, elev 232.7 ft, blg cas after re-cementing back to 1743 ft to test show at 1600 ft, old td 3128 ft. R. L. Gay, Tr., Long-Bell A-1, nw nw 10-8-13, core lime 5925 ft. J. H. Askew, Sabine 1, ne nw 9-7-13, dr 2410 ft. Geo. LeGrand, McGowan 1, nw nw 8-8-10, sd 1460 ft (corrected depth). Loring Oil Co., Bowman-Hicks 18, 15-7-12, pumped in baroid to kill sw flow (172 degrees), co, td 5272 ft. King, Tr., Davis 1, 29-7-11, lcn. State Prod. Co., Davis 1, 17-7-10, 6-inch 2638 ft, dry at 2800 ft, dr chalk 2805 ft; Davis B-1, 17-7-10, dk. G. E. Jordan, Dew 1, sw se 34-8-11, dk pat. C. H. Tuttle, Byrd 2, nw nw 7-7-10, 6-inch 2430 ft, dr plug. R. E. Davidson, Davis 1, 28-7-11, dk. S. A. Lane et al, De Keyser 1, nw ne 23-7-11, tested dry no show 2525 ft, pulled liner, liner broke, fsh, td 2525 ft. Supreme Oil Co., Pruitt 1, se sw 30-8-11, rig. Broderick & Calvert, Costullo 1, se nw 2-7-14, elev 174 ft, top Z. marl 1956 ft, 6⅝ cas cemtd 1956 ft, tested dry at 2392 and 2415 ft, sd 2415 ft. A. F. Tarver, Stoker 1, 34-8-10, sd for water 2100 ft. N. A. Sims, Peterson 1, se nw 34-7-13, lcn. Howard Russell, Porter 1, se se 7-7-11, sp 10-inch 100 ft, sd 450 ft. J. H. Reeves, Sabine Bank 1, ne sw 28-8-11, sp 10-inch 100 ft. A. A. Trammell, Sepulvedo 1, nw ne 5-7-13, dk. J. B. Hughes, Stille 1, 36-8-11, rig. W. S. Smith, Tr., Hamilton 1, ne ne 32-8-11, dk. McCormick et al, Pate 1, 32-8-11, lcn abn. Langford et al, Sabine 1, se ne 8-7-13, lcn.

VERNON PARISH — Llano Coop. Colony, Fee 1, nw ne 34-2n-9w, 10-inch 50 ft, dr 187 ft.

WINN PARISH—Tex Lloyd, J. B. Milam 1, nw sw 28-13-3, lcn.

NEW MEXICO . . . ROCKY MOUNTAIN

Unitization of Hobbs Area Assured Whether All Owners Agree or Not; Field Facing Another Cut in Production.

Staff Correspondent, Casper, Wyoming

Hobbs Facing Another Cut In Prorated Production

Hobbs, New Mexico.—Allowable production in the Hobbs field is in line for a reduction of about 4000 barrels daily beginning with the July 1 proration period as result of Atlantic Oil Producing Company, one of the largest buyers in the field, having announced intentions of curbing its daily takings by the above amount. Current production is limited to 29,430 barrels daily, having been cut about 1000 barrels on June 1 when Shell Petroleum Corporation lowered its nominations.

Unitization of all or the major portion of the Hobbs field shortly is now considered an assured fact. A tentative draft has been made of a unit plan contract, and will be submitted to all property owners for signatures. It is planned to proceed with the plan even though 100 per cent participation is not accomplished, as the potential holdouts do not have sufficient productive acreage to interfere with the conservation results expected through the pinching of wells offering abnormal gas-oil ratios, and those in the water infested areas.

Materials are en route to the new location staked on the north end of the Eunice pool, Lea County, by Tidal Oil Company, Devonian Oil Company and the Darby Petroleum Corporation. The location is on State fee land, and 1980 feet out of the NEc Section 8-21s-36e. In the event of a successful completion two offsets will be required. Agreements have been made among all lease owners in the immediate area to space wells at the center of 40-acre units.

Reenter Southwest Colo. Area That Was Once Tried

Cortez, Colo.—In territory which has been semi-proved for some years past, the C. H. Smith interests have indicated their intentions of drilling a wildcat test in southwestern Colorado this season. The location is on what is known as McElmo structure, Montezuma County, NW NE Section 31-36n-17w. A test drilled here several years ago by Midwest Refining Company found very good showings of oil and gas, but for one reason or another was finally abandoned. Changed conditions in the territory at this time, however, may make a test in this section of particular value.

Hiawatha Dome Gas Wells Reported Turning to Oil

Rock Springs, Wyo.—Considerable speculation and a little excitement has been caused recently by a growing rumor that all of the wells on Hiawatha dome, in Sweetwater County, Wyoming and Moffat County, Colorado, are rapidly turning from gas production to high grade crude oil. The fact of the matter is that the wells in this field have always produced a certain amount of drip oil and distillate along with the gas and if this production shows a gain from time to time it is no more than is to be expected of any good gas field. Ohio Oil Company is the

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operator in this field, and being a company of major experience, will probably know when and how to make an oil field out of a gas field if at some time in the distant future the change is indicated. The Hiawatha and Baxter Basin fields are the source of gas supply for the long pipe line across southwestern Wyoming into Utah and Idaho. Immense reserves of gas lie in the producing territory and in territory adjacent, so that there is no danger that the line may face a lack of supply in years to come.

Osage Extension Wells Holding Up Production

Osage, Wyo.—The Osage oil field in Weston County, eastern Wyoming, is by far the busiest field in the Rocky Mountain territory so far this month. Rumors to the effect that production from the wells in the southwestern extension of the old field had been falling off have proved false, with wells now six months old showing for better than half their initial production. This is considered very good when it is remembered that wells in the old part of the field quickly dropped off from their initial production to a mere fraction of it. None of the wells in sections 14 and 23 are even producing to full capacity because of an inadequate market; none of the wells have been shot and none are being swabbed. Double production could easily be obtained by shooting. There are 11 operations actually under way in the field at present, most of them in the new district.

Idaho Well to Resume; Near Top of Expected Sand

Payette, Ida.—Operations have been resumed by Interstate Finance Corporation at its test east of this city; well has been standing for some time at 1265 feet, presumably near the top of the gas sand. A string of eight-inch casing has been set and cemented. The Boise Petroleum Company, eight miles east of Payette, has set the 6⅝-inch casing at 1550 feet and has bradenheaded off gas production and is now using it for fuel for drilling.

On the Crystal dome (where Ohio Oil Company drilled a deep test without developing any production) Idaho Gas & Utilities Corporation has taken over Consolidated Oil Company's test which has been standing at 1980 feet where it found some gas last March. This company has a franchise to supply natural gas to Payette. North of Payette Otto Rhinesmith has taken over the acreage of Associated Oil & Gas Company and Mountain States Oil & Gas Company, and has moved a drilling machine on location for a test to be drilled soon. The operation is to be backed by a group of Weiser and Nampa business men.

Rains Slow Up Proposed Work in Whitlash Field

Chester, Mont.—Whitlash Petroleum Company (Radigan interests) was the only operator who succeeded in getting on location last week before the heavy rain storms put a stop to any attempt to move into the Whitlash field, northern Liberty County, Montana. The Whitlash well was drilling below 500 feet, after having set and cemented surface casing. A. E. Crumley is rigging up Strode 1, and four other wells are trying to get started. A new location is reported on the Schaefer lease, east of the Western Natural Gas Company's Mahoney 1, the discovery well.

The Whitlash field lies across the international line; it is called Reserve dome on the Canadian side. Until the oil discovery last fall, the field had been proved for natural gas and supplies a part of that used by Great Falls.

Cut Bank, Mont.—The Texas Company is making excellent progress at its test in the Cut Bank district, north of here, in territory northeast of the producing gas wells. International Land Company 1, Section 6-36n-4w, is drilling below 1030 feet, and the company has made location on Section 22-36-5w for a second well; a third is to be drilled in the program for this season. The Roy Tarrant test is standing cemented at 2835 feet, on top of the objective sand. No other operations are under way in the field, although it is understood that the O'Neil interests will drill three or four tests this summer to augment the gas supply for Montana Power Company's line.

New Mexico and Rocky Mountain Field Developments

COLORADO

Completions

Company, Well and Location	Initial Production Bbls.	Depth
JEFFERSON COUNTY—		
Ruby Hill O&G Co., Braden 1, se 24-4s-69w	*	4280
RIO BLANCO COUNTY (Piceance Creek)—		
Magnolia Petroleum Co., Maddock 1, nw se 9-2s-96w	¶8¼	2417

Wildcat Drilling Report

(Wells shut down not included)

ADAMS COUNTY—Hills Dome Lease Dev. Co., se 27-3s-54w, stand cem., 4025 ft.

ARAPAHOE COUNTY—McDeb Drlg. Co., Fitzsimons 1, ne 7-4s-68w, sd temp., 6100 ft.

ARCHULETA COUNTY — Oil City Pete Co., Fitzhugh 1, sw 34-33n-13, sd for pipe, gas show, 717 ft.

EL PASO COUNTY—Gulf States Oil Corporation, Carson 2, ne 10-16s-66w, 8¼ inch at 2000 ft.

GRAND COUNTY—Oil & Mineral Lands, Inc., McElroy 1, se sw 14-2n-81, resume at 618 ft.

LaPLATA COUNTY—McGarr Pete Co.'s Pinon Mesa 1, ne 34-33n-12, rig up. Phipps et al, sw 9-33-13, td, 520 ft.

LARIMER COUNTY—Mayer et al, Reed 1, nw 28-4-60, fsh tools.

LINCOLN COUNTY—Eastern Colorado Oil Corp., State 1, nw 36-14s-57w, sidetracking, td 3449 ft.

MONTROSE COUNTY — Uncompahgre O. & G. Co., Vandemark 2, 27-50n-10, co, td 800 ft.

MONTEZUMA COUNTY—Oliver, Downey, Smith et al, nw ne 31-36-17w, rigging up.

PARK COUNTY — South Park O&G Co., Milligan 1, se 13-8s-76w, cem cave and sd, 2912 ft. South Park Oil Co., Esche 1, ne 5-9s-76w, sd 2470 ft.

RIO BLANCO COUNTY—California Co., Raven 1, se 20-2n-102, dr 5405 ft.

WELD COUNTY—Tulsa-Ft. Morgan Oil Co.'s Anthes 1, ne ne 24-8n-59w, dr 1805 ft. Weld Royalties Co., se 29-9n-61, 20-inch set at 89 ft. Ohio Oil Co., Butters 1, 7-6n-60w, setting boilers. Manning & Terry, Niles 1, ne ne 13-6n-61w, spudding. Reiter-Foster, Johnson-Juhl 1, se 14-6n-61w, ready to shoot base Niobrara at 6263 ft.

WYOMING

Completions

Company, Well and Location	Initial Production Bbls.	Depth
NIOBRARA COUNTY (Lance Creek Field)—		
Continental Oil Co., sw sw 32-36-65	32	2960

Wildcat Drilling Report

(Wells shut down not included)

CARBON COUNTY—Prairie O&G Co., 1, 29-37-89, dr in to test Frontier 4900 ft. Midwest Refining Co., U. P. 27, 27-11-81, dr by whipstock at 4011 ft.

CONVERSE COUNTY—John Ackard, se 24-33-72, temporarily sd, to refinance, 2020 ft.

FREMONT COUNTY—Ward O&G Co., 28-34-90, dr near Frontier, 2400 ft. Yellowstone Oil Co., Gabus 1, sw 14-38n-94w, dr below 1620 ft.

LINCOLN COUNTY—H. C. Harris et al, se 14-21n-117w, dr below 1550 ft.

NATRONA COUNTY—Mutual Oil Synd., Midway 2, sw se 14-36-79, bailing in second Wall Creek, 5353 ft. Summit Oil Co., Trevett 1, 21-33-80, resume 1387 ft.

SWEETWATER COUNTY—Vermillion Oil Co., sw se 16-12n-99w, resuming.

UINTA COUNTY—Transwestern Pete Co., Ltd., (Doheny), 6-14n-118, resume, 3216 ft. Park City O&G Co., ne nw 16-15n-113w, dr bel 2950 ft.

WASHAKIE COUNTY—Bales Oil Trust, Brome 1, ne nw 31-48n-90w, cem 8¼ inch 1105 ft.

WESTON COUNTY—Julius Peters et al, Weitzell 1, sw nw 30-46-64, dr bel 4150 ft. Gose Synd., ne 28-37n-63w, dr resumed, 5050 ft. Le-Faivre Oil Synd., nw se 29-45n-68w, to resume soon, td 1800 ft.

NEW MEXICO

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CURRY COUNTY—		
G. L. Trout, 24-2n-31, abn.		
LEA COUNTY—		
Amerada Pete Co., Hardin 1, sw se 18-18s-38e, testing about	5500	4158

Wildcat Drilling Report

(Wells shut down not included)

BERNALILLO COUNTY—Norrins Realty, Pajarito Grant 1, 22-9n-1e, fsh cas 1295 ft.

CHAVES COUNTY — Warman Oil Trust, Evans 1, 15-14s-25e, dr 1330 ft. R. D. Compton, sw se 20-10s-24, spd and sd.

DE BACA COUNTY—Montgomery et al,

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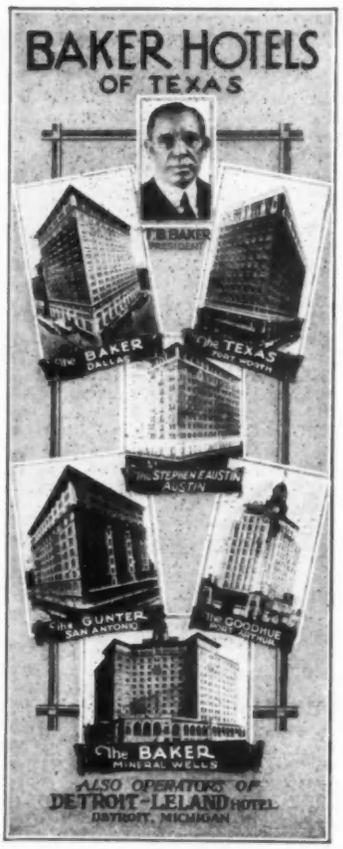

Wood 1, sw 6-4n-20e, fsh tools 4662 ft. Landowners Oil Co., State 1, ne 16-1s-27e, dr 4855 ft.

DONA ANA COUNTY—Middle States O&G Co., Boretzi 1, 14-26-5e, rigged.

GUADALUPE COUNTY—N. M. Prod. & Ref. Co., McMillan 1, 24-5n-16e, wait orders 4507 ft.

HARDING COUNTY—Carbon Dioxide Corporation, Tinsley 1, 31-21n-31, lcn.

LEA COUNTY—Baker Oil Co., Inc., sw nw 15-13s-33e, contract let.

LUNA COUNTY—Angelus O&M Co., State 3, se 30-21-10, try to reset casing 6171 ft.

RIO ARRIBA COUNTY—Governador Oil Co.'s 1, se 15-29n-7w, set cas 2070 ft.

ROOSEVELT COUNTY—Peterson Oil Co., Good 1, se ne 32-5s-30e, rig up.

SAN MIGUEL COUNTY—Cabra Springs O&G Co., Thompson 1, ne 21-12-22, changing to steam power, td 2540 ft.

MONTANA
Completions

CARBON COUNTY (Golden Dome)—Ohio Oil Co., Kutchinski 1, 15-7s-21e, abn

Wildcat Drilling Report
(Wells shut down not included)

BROADWATER COUNTY — Capitol O&G Co., nw 7-8n-1e, dr bel 2200 ft.

CARBON COUNTY—Corbett Royalty Co., sw se 1-16s-23e, dr 1160 ft. Jack Creek O&G Co., se 15-7s-23e, rig up. Midland Oil Co., nw 24-6s-23e, rig up.

CARTER COUNTY—E. T. Moorehead, sw 34-4s-57w, wait for 12⅓ inch at 350 ft.

CASCADE COUNTY—Buscher & Cassady, Johnson 1, se 19-22-3e, wait for Merz test, td 1387 ft. Charles Merz et al, Sheffels 1, nw 4-21-4e, dr 1520 ft.

FALLON COUNTY—H. W. MacDonald's 1, sw 28-8n-60e, dr 1755 ft.

FERGUS COUNTY—Melton Corporation's 1, sw 24-21n-17e, dr and carry 8¼ inch 3150 ft. Landheim-Romunstad 2, ne 3-17n-20e, set 6⅝ inch at 2116 ft, td 2600 ft.

GALLATIN COUNTY — Montana Gas & Pete Corp., Adams 1, 35-1n-2e, refinancing, td 1650 ft.

GLACIER COUNTY—Finn et al, McLellan 1, nw se 12-34-6w, rig up. Blackfeet Petroleum, ne 28-36-12w, rigged up to resume. Jeffries et al, se ne 17-31n-12w, prep to move in standard tools, td 2980 ft. Tarrant et al, Hagland 1, nw se 13-34-6w, ready to dr in 2835 ft. Browning Development Co., Reickhoff 1, ne 3-34-6w, rig up.

GOLDEN VALLEY COUNTY — Golden Valley Oil Co., 2-6n-22, dr below 3335 ft.

LIBERTY COUNTY—Whitlash Petroleum Co., Hicks 1, nw ne 26-37-4e, dr bel 1100 ft. Oiens et al, Hicks 1, se ne 26-37-4e, building rig. R. C. White et al, Hicks 1, ne ne 27-37-4e, building rig. Teter & Strawn, Shafer 1, sw sw 24-37-4e, building rig. Postlewaite et al, sw ne 26-37-4e, building rig. A. E. Crumley, Strode 1, nw ne 35-37-4e, building rig. Northland O&G Corp., Yurman 1, sw 32-33-5e, prep to resume at 2815 ft. Peoples O&G Co., nw 17-36-6e, dr and carry 10-inch bel 2020 ft.

MUSSELSHELL COUNTY — Minnesota-Flatwillow Pete Co.'s 1, sw 7-11-31e, dr 2562 ft.

PHILLIPS COUNTY—St. Cloud O&G Co., sw ne 20-24n-24e, dr bel 200 ft.

PONDERA COUNTY—Bell-Adams, Venetz 1, ne 31-27-4w, dr water well, oil test standing 920 ft.

SWEETGRASS COUNTY—Shoshone Consolidated Oil Co., nw nw 23-2n-15e, ur 5785 ft.

TETON COUNTY—California Co.'s Sullivan 1, nw 34-28-7s, dr bel 3050 ft. Earl Oil Co., ne se 22-22n-8w, to res at 3860 ft.

TOOLE COUNTY—Oregon Syndicate, se 20-36-2e, try to pull cas to plug back from 2580 ft. Texas Co.'s International Land 1, se sw 6-36-4w, dr 1150 ft.

VALLEY COUNTY—Opheim O&G Co., ne 28-37n-38e, mvg in.

YELLOWSTONE COUNTY—Spokane-Laurel Oil Co., sw se 30-2s-24e, standing for orders 580 ft. Peter Anonioli, ne ne 2-2n-25e, wait for casing 2370 ft.

SOUTHEASTERN STATES

Jackson Completes One Each Failure and Producer. Lamar County, Ala., Test Reports Slight Gas Show.

Another Test Announced For Southwest Alabama

Jackson, Ala.—Location for another test in Southwest Alabama was made during the last week when J. C. Prine and associates made location for Mobile and Ohio 1, SE NE SW Section 33-2n-4w, Mobile County, near the town of Citronelle. The test is on a block of approximately 20,000 acres and probably will go to 3000 or 3200 feet.

Tidal Oil Company and associates' Everett & Boykin 1, NE SE Section 33-6n-2e, Clarke County, Alabama, was drilling at 3870 feet still in Tuscaloosa last week.

In Lamar County, Alabama, P. J. McAlpine and associates ran into a slight gas show with brackish water at 2235 feet under 500 feet of slate and shale, but later were drilling sandy lime at 2275 feet. Six-inch casing was being hauled in and probably will be set about 2300 feet.

Ohio Oil Company has practically completed rigging up for its 7000-foot test, Bethel 1, NW SW NE Section 34-3s-2w, Mobile County, Alabama.

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Jackson Wild Gasser Under Control of One Week

Jackson, Miss.—Kinley Brothers of Oklahoma and crews of the United Gas Public Service Company were successful on the afternoon of June 16, in capping with a master gate Atkisson and Dyer's Valentour 1, Section 18-5-2e, Rankin County, east edge well of the Jackson field, which in catching fire killed two of the Atkisson brothers, part owners of the well, the driller and another member of the crew. The master gate was slipped on almost to

the minute exactly one week after the well had gotten out of control.

The six-inch was cut so that it made a plain end and a casing head set upside down topped with nipples and gate valve was snubbed on through the use of four rope lines in four directions from the well and wire lines with pulleys using chain hoists pulled the connection down over the six-inch after it was packed with a stuffing box and shut in. The well is now ready for a standard hook-up.

One Gas Well, One Failure Jackson's Record for Week

Jackson, Miss.—Two gas producers and one junked hole were completed in the Jackson gas field during the week ending June 22. James A. Alexander, Trustee's, Fitzhugh 2, NW NE Section 1-5n-1e, Rankin County, in the northeast part of the field, was completed at 2371 feet, making an estimated 40 to 45 million cubic feet of gas daily; elevation is 270 feet. Midway black shale was logged at 2282 feet and chalk at 2366 feet. This part of the field, the most recent to be developed, is checking slightly higher than the rest of the gas field.

Muse and Muse's Bradley 1, SE SW Section 11-5-1e, Rankin County, was completed for an estimated 35,000,000 feet of gas at depth of 2430 feet. D. L. Adams' Hannah 1, NE SW Section 14-5-1e, Rankin County, was junked and abandoned at 2462 feet, which is top the chalk. The well caved 400 feet down before casing could be run.

Three new locations were made in the Jackson field last week. Muse and Muse have rig up for Security Realty 1, NE NW Section 1-5-1e, Hinds County. Ferguson and Fuller are rigging up for Phyllis Ivy 1, NE NW Section 13-5-1e, and Henslee and associates have rig up for Warner 1, NW SE Section 14-5-1e.

Bay Springs Petroleum, Incorporated, have abandoned Keyes 1NW NE Section 21-2n-10e, Jasper County, East Central Mississippi, as a dry hole at 3703 feet in Wilcox.

Southeastern States Field Developments

MISSISSIPPI

Completions

Company, Well and Location—	Initial Production Bbls.	Depth
JASPER COUNTY (Bay Springs)—		
Bay Springs Pet., Inc., Keyes 1, 21-2n-10e	*	3703
RANKIN COUNTY (Jackson)—		
Jas. A. Alexander, Tr., Fitzhugh 2, 1-5n-1e	¶45	2371
Muse & Muse, Bradley 1, 11-5-1e	¶35	2430
D. L. Adams, Hannah 1, 14-5-1e	†	2462

New Operations

HINDS COUNTY—Muse & Muse, Security Realty 1, nwc ne nw 1-5-1e.

RANKIN COUNTY — Ferguson & Fuller, Ivy 1, ne ne nw 13-5-1e. Fred W. Henslee et al, Warner 1, nwc e½ se 14-5-1e.

Wildcat Drilling Report

(Wells shut down not included)

CLARKE COUNTY (Quitman) — F. X. Gowans, Elfring 1, se ne 13-1n-14e, wo cas 104 ft.

LAMAR COUNTY (Purvis) — Stauffer & Kouri, Trs., Bond 1, se ne 18-2n-14w, bailed dry with oil and gas show at 1152 ft, dr water sand 1505 ft.

LOWNDES COUNTY — Lowndes County O&D Co., Carr Est. 1, ne nw 34-17-16, base Selma chalk 620 ft, dr shale 1606 ft.

MONROE COUNTY—P. J. McAlpine et al, Chas. Rye 1, se nw 22-15s-17w, setting 10-inch cas 580 ft.

SCOTT COUNTY—Culley et al, Owen 1, se ne 2-8n-9e, sd wo dr pipe, in shale 700 ft.

STONE COUNTY—Hercules Sulphur Expl. Co., Lang 2, sw sw 28-3s-11w, sand 1971-92 ft, setting 6⅝ cas, td 1992 ft.

ALABAMA

CLARKE COUNTY (Jackson)—Tidal Oil Co. et al, Everett & Boykin 1, ne se 33-6n-2e, dr 3870 ft (Tuscaloosa).

LAMAR COUNTY—McAlpine et al, Gardner 1, nw nw 22-15s-16w, top shale and slate 1700 ft, dr sandy lime 2275 ft.

MOBILE COUNTY—Ohio Oil Co., Bethel 1, nw sw ne 34-3s-2w, rig. J. C. Prine et al, M. & O. 1, 9-2-2w, lcn.

WASHINGTON COUNTY—South Ala. O. & G. Co., St. Stephens A-1, 26-7n-1w, dk.

TENNESSEE

CHESTER COUNTY—Gilmore et al, Scott 1, top Eutaw 1045 ft, 8-inch cas 1195 ft, dr 1525 ft.

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EASTERN STATES

Eastern States Field Developments

PENNSYLVANIA

Company, Well and Location—	Initial Production Bbls.	Depth
BRADFORD FIELD—		
Sloan-Zook Producing Co., Fee 29.	12	....
Fee 30	10	....
Willett 13	pres.	....
South Penn Oil Co., Burdick 10....	2	....
Mix Creek Oil Co., Fee 59.....	3	....
Chief Producing Co., Rasey 8.....	2	....
Bovaird & Reed, Quintruple 9	2	....
Minard Run Oil Co., Cram 15.....pres.		....
Lincoln & Brink, Fee 8	2	....
Bovaird & Hamlin, Rew 44.....	3	....
Indian Creek Oil Co., Fee 7.....pres.		....
Dallas Oil Co., Dallas 8.....pres.		....
BUTLER COUNTY—		
M. B. Finnessy, English 9	2	....
CLARION-VENANGO—		
Titusville Trust & Co., Foskey 24..	2	....
Bower & Co., Crooks 1	*	....
CENTER-MIDDLE FIELD—		
Second National Bank of Titusville, Byles 7	7	....
Patton & Wilson, Borden 6.....pres.		....
TIOGA-WAYNE FIELD—		
North Branch Dev. Co., Colegrove 1	¶3	....
Murray 6	¶16	4205

NEW YORK

Company, Well and Location—	Initial Production Bbls.	Depth
ALLEGANY FIELD—		
Forest Oil Corp., Fee 78, 79, 80...pres.		....
Sawnett Oil Corp., Fee 4.....pres.		....
Andy Johnson & Co., Johnson 3....	2	....
Mary Lippert, Lippert 3.....	2	....
Pure Penn Oil Co., Kinley 5.....	2	....
F. and M. Putnam, Pierce 4.....	*	....

WEST VIRGINIA

Company, Well and Location—	Initial Production Bbls.	Depth
CABELL COUNTY—		
United Fuel Gas Co., Grass 1.....	¶1	2054
CALHOUN COUNTY—		
M. & F. Oil & Gas Co., Allen 1..	¶¾	2057
PLEASANTS COUNTY—		
H. M. Adams & Co., Ruckman 1 ...	1	600
RITCHIE COUNTY—		
Lewis Drilling Corp., Sandy 2.....	*	....
ROANE COUNTY—		
W. B. Heeter, Burdette 1.....	*	2511
TYLER COUNTY—		
Ohio Oil & Gas Co., Arnett 1.....	*	2116
WOOD COUNTY—		
G. C. Alleman Oil Co., Linger 1..	*	....
Prather 8	*	....

SOUTHEASTERN OHIO

Company, Well and Location—	Initial Production Bbls.	Depth
MORGAN COUNTY—		
R. C. Whitener, Finley 1	*	190
NOBLE COUNTY—		
Bingham, King & Co., Crum 10....	2	222
George Woodford & Co., Woodford 2	*	95
WASHINGTON COUNTY—		
Herlin, Schramm Oil Co., Ward 7..	1	300
John Wagner, Wagner 5.....	10	733

CENTRAL OHIO

Company, Well and Location—	Initial Production Bbls.	Depth
BELMONT COUNTY—		
Gibson Bradfield & Co., Patterson Hrs. 1	¶¼	1911
TUSCARAWAS COUNTY—		
Oxford Oil & Gas Co., Carroll 2...	22	3695

NORTHEASTERN OHIO

Company, Well and Location—	Initial Production Bbls.	Depth
HANCOCK COUNTY—		
Younglove & Co., Moore 1	*	1379
SENECA COUNTY—		
M. R. McPherson & Co., Fox 3....	30	1579

INDIANA

Company, Well and Location—	Initial Production Bbls.	Depth
Waggoner & Co., Vandivier 1	¶¼	52
PERRY COUNTY—		
Moorehead & Black, Cassidy 1.....	*	318
Conyers & Buggs, Cassidy 5.....	30	....
SULLIVAN COUNTY—		
Wm. H. Wood, Martz 1	¶½	....
Wyman & Brown, Farrand 1	*	727
SWITZERLAND COUNTY—		
Clarence Carter, Vevay Town Lot 1	¶½	....

KENTUCKY

Company, Well and Location—	Initial Production Bbls.	Depth
HART COUNTY—		
Creech & Co., Logsdon 1	35	....
Carpenter & Frost, Peyton 4.....	50	....
Farmer & Co., Wilson 1	40	....
Mud Branch Oil & Gas Co., Mathias 1	50	....
Mud Branch Oil & Gas Co., Seymour 4	30	....
DAVIESS COUNTY—		
Cumberland Petroleum Co. & Kemrow Co., Jackson Bros. 1	*	700
OHIO COUNTY—		
S. A. Cobb & Co., Ramsey Hrs. 3..	*	850
Cumberland Petroleum Co., Brooks 6	75	343

MICHIGAN

Company, Well and Location—	Initial Production Bbls.	Depth
MIDLAND COUNTY—		
Gordon Oil Co., Skinner 4.....	600	3569
W. L. McClanahan, Inc., Hughes Estate 1	*	3671

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ARKANSAS FIELDS

Set Casing in Arkansas Wildcat Reported Showing

Texarkana, Ark.—Fitzwater and associates, who reported a two-foot oil sand saturated with oil at 2919-20 feet in E. L. Beck 1, SW SE Section 33-15-26, Miller County, Southwest Arkansas, have cemented seven-inch OD casing at 2919 feet.

Arkansas Field Developments

Completions

ASHLEY COUNTY—		
Brooks et al, Crossett Lbr. Co. 1, 31-15s-6w	*	4031
CLEBURNE COUNTY—		
Craver & Walker, Donithan Lbr. Co., 1, 33-11-9	†	3740
COLUMBIA COUNTY—		
Kendall Oil Co., Fullenwider & Kitchen 1, 13-17-22	*	814
YELL COUNTY—		
T. Luckett, Balcon 1, 36-7-12	†	5640

Wildcat Drilling Report

(Wells shut down not included)

HOT SPRINGS COUNTY—Starr Oil Co., Cunningham 1, 11-5-16, sr, td 1340 ft.

LITTLE RIVER COUNTY—Harrell et al, Taafe 1, sw nw 25-12s-32w, dk.

MILLER COUNTY—Fitzwater et al, E. L. Beck 1, sw se 35-15-26, top red beds 2812 ft, claim oil sand 2919-20 ft, cemtd 7-inch OD cas 2919 ft, td 2920 ft. Noel et al Dickson 1, 11-20-27, fsh, td 2600 ft.

OUACHITA COUNTY—Copenhaver et al, Berg 1, 13-15-17, wosr 2208 ft.

PIKE COUNTY—E. R. Henderson, East 1, 13-9-23, rig up for sec hole.

ST. FRANCIS COUNTY—Field & Jones, F. M. White 1, 1-4n-2e, core 2950 ft. E. R. Henderson, Britton 1, ne nw 1-4n-1e, sp 10-in 503 ft, dr 604 ft.

SCOTT COUNTY — Heavener O&G Co., Reser 1, 36-4-26, fsh 1436 ft.

WASHINGTON COUNTY—Chase & Rogers, Cunningham 1, sw ne 14-15n-32w, sp, sr 1670 ft.

New Equipment for the Field

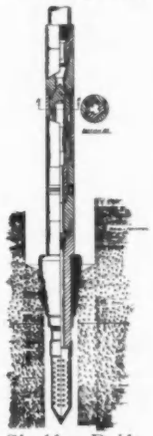
MACHINERY - TOOLS CATALOGS - BOOKS

▼ ▼ ▼

1. Drift Indicator

SHAFFER TOOL WORKS

Shaffer Tool Works, Santa Fe Springs, California, has recently developed the Shaffer Drift Indicator, which is run on the drill pipe above the bit or drill collar. It is left on the string during all the drilling operations and enables the operator to detect and correct crooked hole while drilling, according to the manufacturer.



Shaffer Drift Indicator

The indicator consists of a sub made of heat treated alloy steel in which is mounted a valve operated by a plumb bob. This plumb bob is free to swing in all directions. Below the plumb bob is a cup shaped pin. The force of the circulation tends to close the valve. But if the hole is within the required limits of straightness the plumb valve hits the pin thereby holding the valve off the seat so that circulation is continuous. When the hole is more than the desired degree off vertical the plumb bob will miss the pin and allow the valve to close, thus shutting off circulation.

In this way a continuous check is made and the hole is straightened without having to disconnect the swivel and kelly or waiting until the tools are withdrawn from the hole.

2. Rising Stem Gate Valve

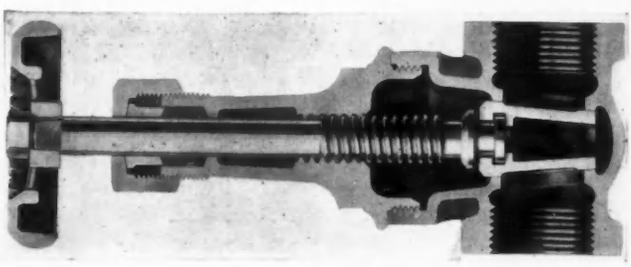
KENNEDY VALVE MANUFACTURING COMPANY

Kennedy Valve Manufacturing Company, Elmira, New York, has placed on the market a new line of rising stem bronze gate valves for 125 pounds steam pressure and 175 pounds water preessure.

The solid wedge disc mechanism of these valves is the same as used for many years in the Kennedy stationary stem bronze gate valve.

A flexible connection is provided between the disc and the stem so that the stem will not bind or spring when the valve is closed. The stem is made of a bronze composition with high tensile and torsional strength, and has a large number of contact threads in the bonnet.

The bonnet hexagon has been made extra large and close to the body so that when a wrench is applied for installing or disconnecting, there will be no danger of distorting the bonnet. Additional features of this new Kennedy design are the deep stuffing box with gland and square section molded packing rings, the large non-heating malleable iron hand wheel which is secured to the stem by a nut, and the heavy, wide pipe end hexagons with generous number of threads.



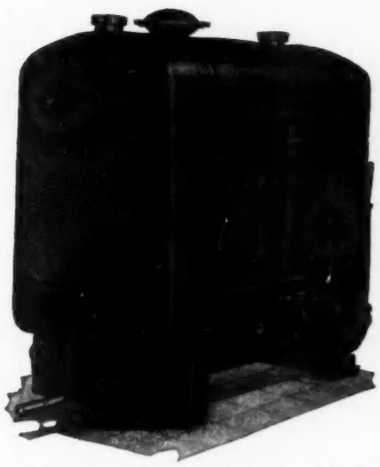
Kennedy Valve

3. Power Units

HERCULES MOTORS CORPORATION

Hercules Motors Corporation, Canton, Ohio, is producing four cylinder power units for the lower horsepower range from six to 175 horsepower.

The "IX" series of power units contains three models known as the "IX," the "IXA" and the "IXB." These power units have the same overall dimensions and hence are interchangeable in connection with any assembly, the only difference in specifications being in the bore of the engines and the parts affected thereby.



IX Series Standard Power Unit

The cylinder walls are water jacketed not only around the combustion chamber but full length allowing the oil splash to come in contact with water cooled cylinder walls when the piston is at top stroke, thus assuring low oil temperatures under severest operating conditions. Crankcase and cylinder block are cast integrally assuring rigidity and alignment of crankshaft, pistons and cylinders and freedom from oil leaks. The oil pump is self-priming and the shaft and gears are case hardened.

The "IX" series is completely housed in heavy gauge sheet metal and side panels. The supports and mounting consists of castings of rugged design.

A complete line of takeoffs are available in connection with this series of power units such as clutch power takeoffs, solid power takeoffs, reduction gears of various ratio with or without clutch, right angle drive takeoffs, vertical

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drive takeoffs with or without reduction gearing, as well as reverse gear drives, straight or with reduction transmissions and stub shafts.

The "IX" series power units can also be readily equipped to operate on natural gas or kerosene as fuel.

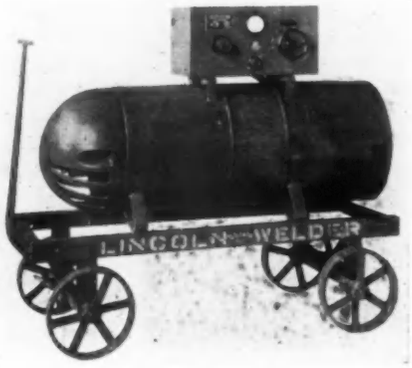
4. Welder

LINCOLN ELECTRIC COMPANY

The Lincoln Electric Company, Cleveland, Ohio, announces a shielded-arc welder.

A uniform welding current is one of the outstanding features claimed for the new machine. By leveling the hills and valleys or the rapid fluctuations of the usual welding current, the "Shield-Arc" is claimed to allow the use of a higher average current per given sized rod which permits a considerable increase in the speed of welding and the amount of weld metal deposited.

The new welder is rated at 40 volts. This rating of 40 volts is desirable for use with the Shielded Arc Electrodes recently developed by the same company.



Lincoln Welder

The new welder is also equipped with dual control which permits independent regulation of current and voltage. It also is equipped with a reversible voltage control which actually reverses the direction in which the current is generated. This innovation eliminates the shifting of cable connections to change the polarity of the welding current.

The control panel is mounted on the machine at a handy height for ordinary control. The front is in a vertical position reducing the possibility of breakage. The control panel has a dead front and no exposed live connection in either the front or back.

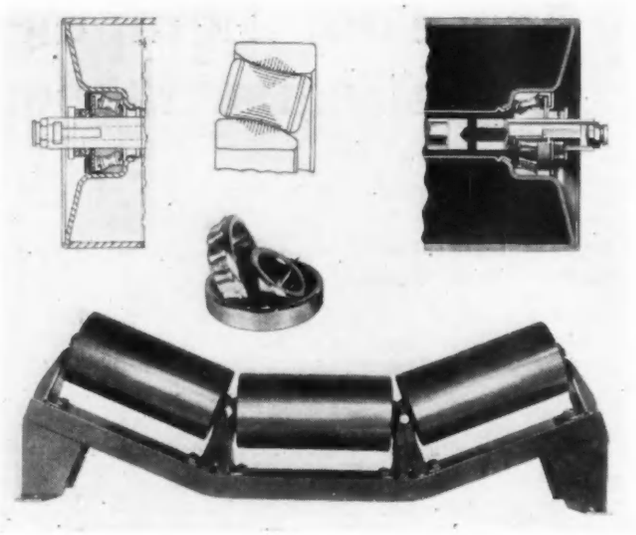
The machine is of arc welded steel construction. Also the complete generator field is of laminated construction, being composed of electrical sheet. The welders are built in AC and DC motor driven types of 300, 400 and 600 ampere sizes. Removable running gear and draw bar makes a change from portable to stationary model easy.

5. Explosive

E. I. DU PONT DE NEMOURS & COMPANY

E. I. du Pont de Nemours & Company, Wilmington, Delaware, anonunce a new type of explosive, known as Hi-Velocity Gelatin Dynamite, described as a straight gelatin that detonates at high velocity with a No. 6 cap, even when shot unconfined. Tests are said to have proved that this material invariably reaches its high velocity within the first eight inch cartridge.

These new gelatins will be offered only in the 60 per cent, 70 per cent and 80 per cent straight gelatin grades, and in diameters not less than 2¾ inches. They are expected to be especially valuable in oil and gas well shooting.



Barber-Greene Conveyor Carrier

6. Conveyor Carrier

BARBER-GREENE COMPANY

Barber-Greene Company, Aurora, Illinois, announces an anti-friction conveyor.

The roller bearings are of an exclusive design and principle, being self-aligning, and taking thrust as well as radial load. Each size of carrier has but one size roller unit, making these units and component parts interchangeable. The carrier is made to interchange with any standard carriers for making replacements.

The roller is made of 5½-inch diameter, seamless tubing nine gauge thick metal. Ends are made of pressed steel with the outer roller race inserted under pressure. Inner tube is 1⅛-inch diameter with two shoulders, one at each end. The spindle is three fourths inch in diameter, made of selected cold rolled steel drilled and tapped on each end for grease and Alemite, slotted to fit in the end brackets, and provided with two flats to lock the grease-seal washers. The spindle is also drilled and reamed at each end for taper pins. The bearings are held in by the two labyrinth seal washers, shimmed so as to keep bearings tight. There are three collar spacers between the bearing race and the taper pins. In case of wear on the bearings or if for any reason the bearings should be tightened up, it is simple to take out the taper pin on one side, insert necessary shim, and drive in the taper pin again.

The load rating of each roller bearing is 450 pounds. By using a factor of safety of 4½ each roller can carry load of 200 pounds, or the entire carrier a load of 600 pounds.

The rounded edge of roller protects the belt. The rollers run absolutely true. Each roller is supported by two pressed steel brackets which are bolted to a channel base.

7. Hydro-Jell

MID-CONTINENT MUD COMPANY & HOUSTON OIL FIELD MATERIAL COMPANY

Mid-Continent Mud Company and Houston Oil Field Material Company, 3100 Butler Street, Houston, Texas, announced a mixture for drilling mud known as Hydro-Jell, a Wyoming bentonite with a high concentration of colloidal matter calculated to prevent loss of fluid from the hole, caving, stuck drill pipe and casing, and which makes a thick wall, confining gas and water to their formations. A stock of Hydro-Jell is carried in the Houston warehouse of the compounders.

Squeaks *from the* BULL WHEEL

"You are of no present occupation, you tell me. What did you do last?"

"Six months, yer honor."

Artist—Shall I paint you in a frock coat, sir?

Mr. Newrich—Oh, don't make any fuss—just wear your overalls.

"Tell me what you read, and I will tell you what you are."

"I read Ovid, Virgil, Demosthenes, Homer—"

"Then you are a frightful liar."

"What sort of a man is Peterson?"

"Well, if you see two men talking at the street corner, and one of them is yawning his head off, the other is probably Peterson."

"Excuse me, sir, do you happen to have seen a policeman anywhere about here?"

"I am sorry, but I have not seen a sign of one."

"All right, hurry up and give me your watch and pocketbook."

A man was driving his baby car along a country road, when a huge racing car shot by like a whirlwind, and went out of sight in a cloud of dust. Some two hours later the racing driver, who had stopped for lunch a few miles down the road, was surprised to see the baby car just arriving. He hailed the driver:

"I passed you a mile or so back, didn't I? You've been a deuce of a time getting here."

"Well," said the other sheepishly, "you passed me so quickly that I thought I'd stopped, and I got out to see what was the matter. I've had the whole engine to pieces twice."

We arise in the morning, contact a cake of soap briefly, a shaving brush more extensively. We contact a pair of eggs, a street car conductor, and finally the office. There is an unpleasant contact with a bill collector. He says he must contact some money. Later, perhaps, we contact a customer or two. When the shades of night have contacted the earth, we contact dinner, and pass the evening contacting poor bridge hands.

And so to bed.

Our fathers had all these experiences, but they didn't know how to describe them.

Pat took his wife to the theater for the first time. They arrived rather early, and she was very interested in everything about them.

Nudging Pat, she whispered, "What does that word 'asbestos' mean across the curtain?"

"Be quiet," said Pat, "and don't show your ignorance. That's Latin for 'welcome'."

"Oh, Mamma, it tells here about a man at large who is criminally insane, wanted for murder, guilty of arson and burglary, and who has moronic tendencies."

"Johnny! Now you just lay that paper down and don't let me ever catch you reading political speeches again!"

"Do you ever allow a man to kiss you when you are motoring with him?" inquired a careful mother.

"Of course not, mother," answered the daughter scornfully. "A man who can drive safely while kissing me isn't giving the kiss the attention it deserves."

A rich shirtmaker from up-State, a little disheveled from an all-night train-ride, registered at one of the ornate inns. Twirling the registering card around, one of those superior clerks, who go monocle for no reason whatever, inquired:

"What is your business, sir?"

Without batting an eye, the groundling snapped:

"Shirts; I turn out those dollar ones you wear."

Through the good offices of an influential American residing in Paris, an ambitious young girl from New York obtained an audience with Sache Guitry, the famous actor, who graciously consented to hear her recite.

After listening to a classical or two, the great actor went up to the young aspirant for histrionic honors and placed his hand on her head, as in benediction.

"My dear child," said he, "marry soon. Good-by."

The club members were bidding farewell to one who was leaving for India. In the conversation, a friend said: "It gets pretty hot in India at times. Aren't you afraid the climate might disagree with your wife?"

The man looked at him reproachfully. "It wouldn't dare."

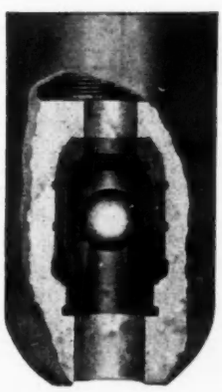
Consider These Facts . . .

Baker Cement Equipment will unfailingly guide, float and cement casing in a well—regardless of length or weight of the string—and is well worth its cost.

AND FURTHERMORE, all of these advantages were introduced by Baker, and were present, as early as 1922, in the form of "Baker" Cast Iron Floating Equipment.

The development of the use of concrete and bakelite in the construction of the internal plugs and valves brought many new advantages as a result of the elimination of metal plugs and valves:

Failure to secure cores due to the presence of metal below the shoe was entirely eliminated;
Objectionable pieces of metal in the hole no longer impeded or endangered further drilling progress;
Elimination of excessive vibration safeguarded the success of the cement job;
The concrete plugs and bakelite valves were found to drill out much more easily than the metal guides and plugs and could be circulated out of the hole;
The effective life of any bit used in drilling out the plugs was materially increased;
Valuable time and material was saved.



Cutaway of a Baker Cement Float Shoe showing internal Concrete and Bakelite valve construction used in all Baker Cement (Floating) Equipment.

If there are any questions which you may have concerning the "value" of Baker Cement Equipment, phone or write our nearest office.

BAKER OIL TOOLS, Inc.

HUNTINGTON PARK, CALIFORNIA

COALINGA HOUSTON TULSA NEW YORK

NEWS *from the Industry's* EQUIPMENT MAKERS

Refugio Well Waiters Hold "Big" Fishing Contest

During a delay preceding in setting and cementing of the 9131-foot string of casing in Edwin M. Jones' deep test at Refugio, five men representing companies which had supplied materials, equipment and service on the project took time out for a brief fishing trip at Port Aransas; and they brought back a tale of having filled a tub with fish of several varieties in a short time.

Two of the group were particularly jubilant, also, over having won the prizes which they had set up by each posting $3 to form a $15 pot for three $5 prizes: one prize for the man catching the first fish, another for the largest fish, and the third for the most fish.

C. P. Parsons, Halliburton Oil Well Cementing Company, Duncan, Oklahoma, was not to be appeased, however, merely with one prize. He won two: for the first fish caught and for the most fish, but among all that he hooked none was so large as the 17½-pound specimen which won one of the $5 rewards for J. E. Mifflin, Lone Star Portland Cement Company, Houston.

In addition to the above two prize winners, those on the fishing trip included M. "Bink" Manning, Houston Oil Field Materials Company, Houston; Louis Douglass, Mid-Continent Mud Company, Houston, who was runner-up on the prize for hauling in the first fish; and R. T. Todd, Byron Jackson Company representative, Houston.

J. E. MIFFLIN
Got the Biggest

C. P. PARSONS
Caught the first and most

Youngstown New York Sales Office Changes

Youngstown Sheet and Tube Company has announced the appointment of Lew E. Wallace as New York district sales manager, succeeding W. B. Blowers, who will continue with the company as special sales representative in the New York district.

The Hammond-Gibson Tank Company has been organized by Fred W. Gibson and B. O. Hammond, veteran tank salesmen, to become distributors of Columbian bolted steel tanks in East Texas, with headquarters at Longview. Gibson was formerly vice president and general manager for Cypress Tank Company, Shreveport, and Hammond was manager for the same concern in East Texas.

Shand and Jurs Sales Company, Denver, Colorado, announces the appointment of Harold S. Evans as central division manager. Mr. Evans will maintain temporary offices at 236 Donahue Avenue, Cincinnati, Ohio.

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Here is a simple test that anyone can do. Cut a short length of Lay-Set Preformed Wire Rope—any type or construction. You don't have to seize the end, as this actual photographic illustration shows.

Then remove a strand, turning it end for end if you wish. Place strand into position as shown...and it "corkscrews" into position.

DEMONSTRATING PERFECT STRAND CONSTRUCTION

This test proves that strands and wires in Lay-Set are preformed to the exact shape they assume in the finished rope. Per foot of rope, the strands are equal in length... therefore, the stress is equal, the chances of high or drawn strands are greatly reduced. Internal stress and premature failure are eliminated because strands and wires lie in place naturally without straightening-out effort.

Perfect strand construction results in increased services with Lay-Set Preformed Wire Rope which average between 30% and 300% over *non*-preformed wire rope of the same grade and construction. The variance in longer service depends entirely upon nature of work and type of equipment.

● No buyer of wire rope can afford to overlook Lay-Set economy. Write today for your copy of "12 Reasons Why You Save Money With Lay-Set." A sample length of Lay-Set accompanies the booklet. Address:

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